

# **Palauan House: Curriculum Revision as a Vessel for Sustaining Palauan Lifeways**

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## Abstract

Culture is a living entity that continuously adapts to change. It may be observed through what is considered the “ordinary”. House, education and work are inextricably intertwined in ordinary daily life.

House, the building, provides shelter, one of human beings most basic physiological needs. House is a safe environment where culture may be nurtured. It is precisely because house is ordinary that it is such an important social element within culture.

Sustaining a culture requires absorption of nutrients which enable it to continue evolving, whereas preserving a culture freezes it at a particular point in time. In this document, the work practices, learning methods and cultural norms of traditional Palau, frozen in time through written and pictorial form, are identified and explored. The journey of changes in work and education through colonization by different colonial administrations is tracked.

Many dualities exist within Palauan culture. These dualities within the culture are duplexities rather than dichotomies. They operate and co-operate both simultaneously or independently to balance and counter-balance each other. Traditional education in Palau amalgamated theoretical knowledge with practical skills. Unfortunately, with contemporary education, people have been encultured to believe that college prepares them for work. Many majors divorce theory from pragmatic utilitarian knowledge and skills, and then have substantial, both lengthy and rigorous, intern requirements after graduation/commencement prior to certification. The challenge for education in Palau is to create duplexity from this duality.

The mission for education in Palau is to understand how cultural practices influence students, and how traditional Palauan education strategies may be effectively integrated into the current educational programs and curricula to help nurture and sustain Palauan culture. This document studies the proposed Architectural Drafting Program at Palau Community College to consider how it may be improved to enable student to sustain their social and cultural community commitments.

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# Introduction

This research thesis, *Palauan House: Curriculum Revision as a Vessel for Sustaining Palauan Lifeways* arose out of this researcher's experiences in Palau. The Palauan proverb, *A cherchar a lokelii*, or the past determines the future, reminds us to look to traditions and to acknowledge cultural heritage as the foundation for the future.<sup>1</sup> The resilience of Palau's complex society, since intrusion by *chad era ngebard* (people from the west), is evident in many current rituals and cultural practices. The Palauan house is a significant setting where culture is inculcated and nurtured. This thesis considers Palauan house as a vessel for sustaining traditional cultural values and practices. In traditional Palauan culture, the transmission of knowledge and skills necessary for the process of creating house occurred in "clubs". This thesis considers whether college may be considered the contemporary equivalent of "clubs", and how contemporary college education may incorporate traditional Palauan educational practices to contribute to the continued evolution of house and culture. Promotion of enhanced knowledge and skills in creating houses might inspire the construction of Palauan houses. Various courses from Palau Community College's proposed Architectural Technology Program are examined and modified to better facilitate the acquisition of knowledge and skills.

Enculturation and socialization begin from birth by rituals and practices of everyday living. Children first learn appropriate behaviors and cultural expectations within their family. Because family is a social construct, its composition and cultural configuration may vary between different societies. As children mature they are educated to meet their responsibilities and social expectations within their community. Because the family house is where children begin their education, it may be considered a vessel for containing cultural learning.

This thesis trawls through documents written in various historic periods in Palau to find descriptions, both written and pictorial, of house. The historical writings used for this research may have cultural bias. The historical sketches, paintings, lithographs and photographs used for this research may also have cultural

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<sup>1</sup> Margo Vitarelli and Faustina Rehuher, *Olechotel Belau: Cultural Treasures of Palau* (Koror: Republic of Palau, 1998), 6

bias. The actual selection of a particular subject to record may have cultural bias. With that awareness, the documents were searched for observations and comments on houses and their use.

However, house, is not an individual artifact. The Palauan house must include context; both cultural and environmental. Traditional houses of the Palauan *beluu* (village) were *bai* and *blai*. *Bai* were the men's meeting houses. Every village had a *bai era rubak*, a meeting house for the governing elders, and as many *bai era cheldebechel* as were necessary to accommodate the various men's clubs. *Blai* were the family houses. This thesis considers *bai* and *blai* as described historically through to contemporary house.

Education and work are basic factors of normal every-day life. They are the intertwined *suld*, (coconut fiber used for making cord), and *blad*, (rope made of coconut cord), which binds house and culture. This thesis includes a brief overview of the history of education and work in Palau. The schooling of Palauans by colonizers affected work in Palau. Changes in work and the influence of foreign money and goods affected cultural values. Influences of non-Palauan instructors on the cultural expectations of their Palauan students is considered.

#### Significance of the Study:

In 2007 a proposed new Architectural Drafting Program was written for Palau Community College. The new courses included in the program which were vetted and approved by the Committee for Programs and Curricula (CPC). This thesis examines how the Architectural Drafting Program may be improved to be more appropriate for Palauan students. The program has dichotomous goals; to prepare students to enter into Palau's construction sector and to prepare the students to successfully transition into an off-island four year college program or university. Traditional methods of education are reassessed to ascertain whether they may be incorporated into this contemporary education setting. Different methodologies of transferring knowledge, including the use of available resources, technologies and instructional material are considered and the utilization of alternative assessment techniques is deliberated.

## Research Questions

### Interpretive – Historical Research:

This inquiry focused on the traditional *bai* and *blai* in the pre-colonization and colonization historical period. From the historical documents located, the *bai* in Koror, Airai and Melekeok were selected. As each of these communities currently still have *bai*, this enabled comparison between the traditional *bai* and associated communities with the contemporary *bai* and associated communities. Peter Barker described both Koror and Melekeok, including their community's adversarial relationship, and their quest for dominance. Augustin Kramer documented many *bai*, and Karl Semper commented on the dilapidation of abandoned villages.

This inquiry also traced work and education from the pre-colonization and colonization historical periods. Traditional methodologies of transferring knowledge for the benefit of the individual and their community were studied to ascertain whether they may be incorporated into the contemporary education.

### Qualitative Research

This inquiry focused on the contemporary Palauan house. The housing section of the *2005 Census of Population and Housing of the Republic of Palau* was analyzed for insights of contemporary housing in Palau. Data of housing in Melekeok, Airai and Koror was analyzed and compared.

This inquiry also focused on the contemporary work and education. The *2005 Census of Population and Housing of the Republic of Palau* was analyzed for insights of contemporary work and education in Palau. Data from Palau's 2006 and 2015 Statistical Yearbooks were analyzed and compared.

### Survey

A survey was done to substantiate observations of traditional Palauan customs and cultural practices in present-day Palau. The questionnaire was emailed to people who had lived in Palau for substantial periods of time.

## Locale of Palau

Palau is an archipelago, chain of small islands, in the Pacific Ocean stretching about ninety three nautical miles from Kayangel to Anguar (or four hundred nautical miles from Kayangel to Helen Island).

Directions to Palau might be: "From Hawaii go to Japan and turn left."

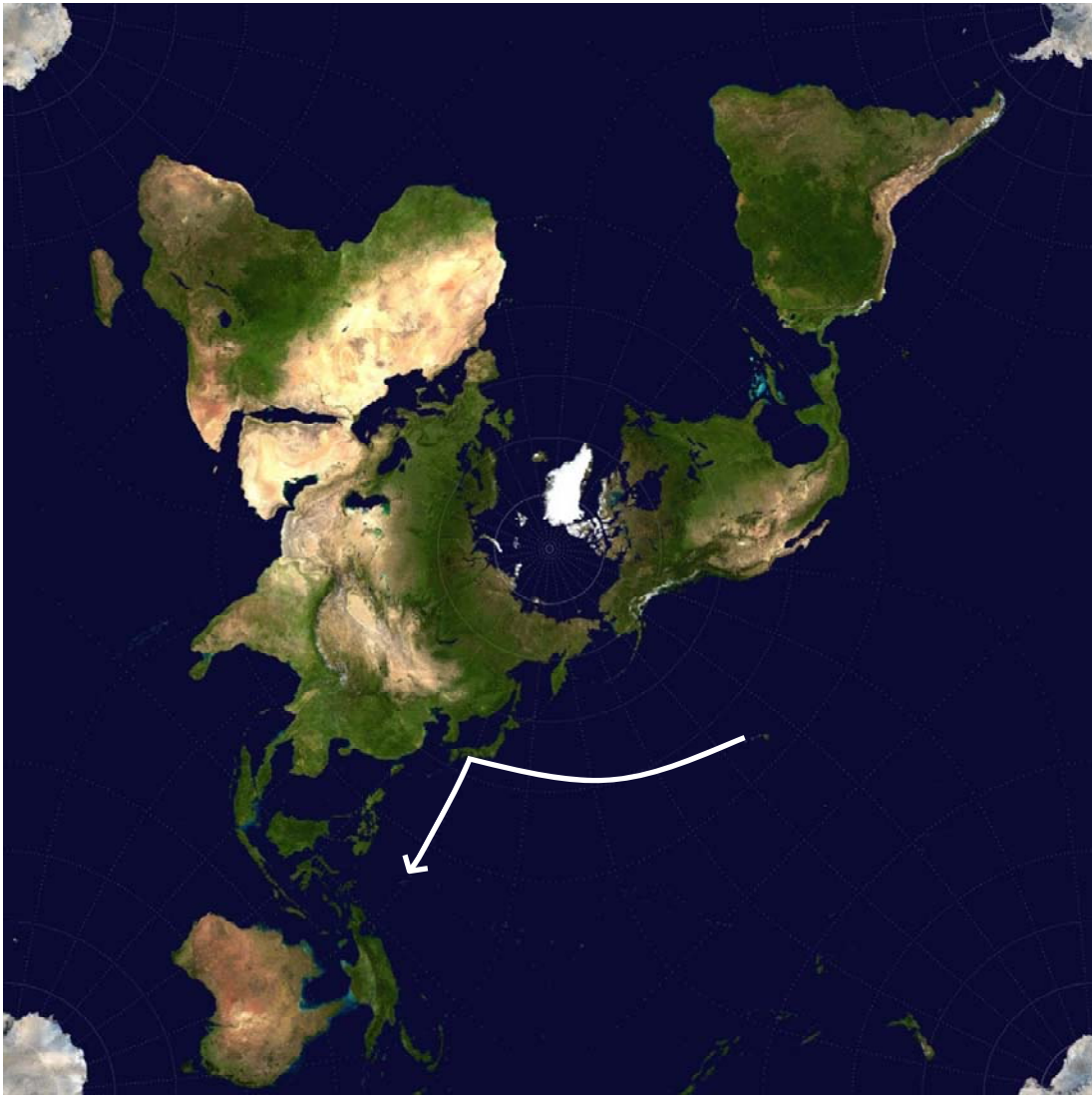


Figure 1: Peirce quincuncial projection map<sup>2</sup>  
<https://upload.wikimedia.org/wikipedia/commons/9/95/Peirce-quincuncial-projection.jpg>, accessed January 20, 2014

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<sup>2</sup> The Peirce quincuncial projection map was selected as the world location map because it better demonstrates the actual proportionality of continents, with less distortion of their relative sizes than regular world maps.

Palau is an archipelago, chain of small islands, in the Pacific Ocean stretching about ninety three nautical miles from Kayangel to Anguar (or four hundred nautical miles from Kayangel to Helen Island). Directions to Palau might be: "From Hawaii go to Japan and turn left."

Palau is four thousand nautical miles west-south west of Hawaii.<sup>3</sup> Koror airport, Palau lies at latitude seven degrees, twenty two minutes and three seconds North (7° 22' 03" N) and longitude one hundred and thirty four degrees, thirty two minutes and twelve seconds East (134° 32' 12" E).

### The Islands of Palau

Palau is part of a mountain range formed by tectonic movements between the Philippine Plate and the Pacific Plate. The tectonic movement resulted in volcanic activity which created the larger islands.<sup>4</sup> Palau has more than three hundred and forty islands, with a total land area of one hundred and seventy seven square miles.<sup>5</sup> The islands include four types of topographical formations: volcanic, high limestone, low platform, and coral atoll.

Palau islands, except Kayangel and Anguar, are surrounded by a barrier reef. The wide off shore barrier reef forms a lagoon of approximately four hundred and eighty nine square miles on the north and west of the islands. The eastern offshore reef is irregular and disintegrates along the northern part of the east coast of Babeldaob.<sup>6</sup>

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<sup>3</sup> *timeanddate.com*, accessed November 9, 2012, <http://www.timeanddate.com/worldclock/distance.html>

<sup>4</sup> Elizabeth Rechebei and Samuel McPhetres, *History of Palau: Heritage of an Emerging Nation* (Koror: Ministry of Education, 1997), 8

<sup>5</sup> *palaugov.net*, accessed November 12, 2012, <http://www.palaugov.net/stats/PalauStats/PhysicalFeatures/phyfeat.htm>

<sup>6</sup> Geological Survey, U.S. Department of the Interior, *Strategic Engineering Study No 110: Palau Islands (Carolines): Terrain Intelligence* (Special Report, Military Intelligence Division Office, Chief of Engineers U.S. Army, 1944)

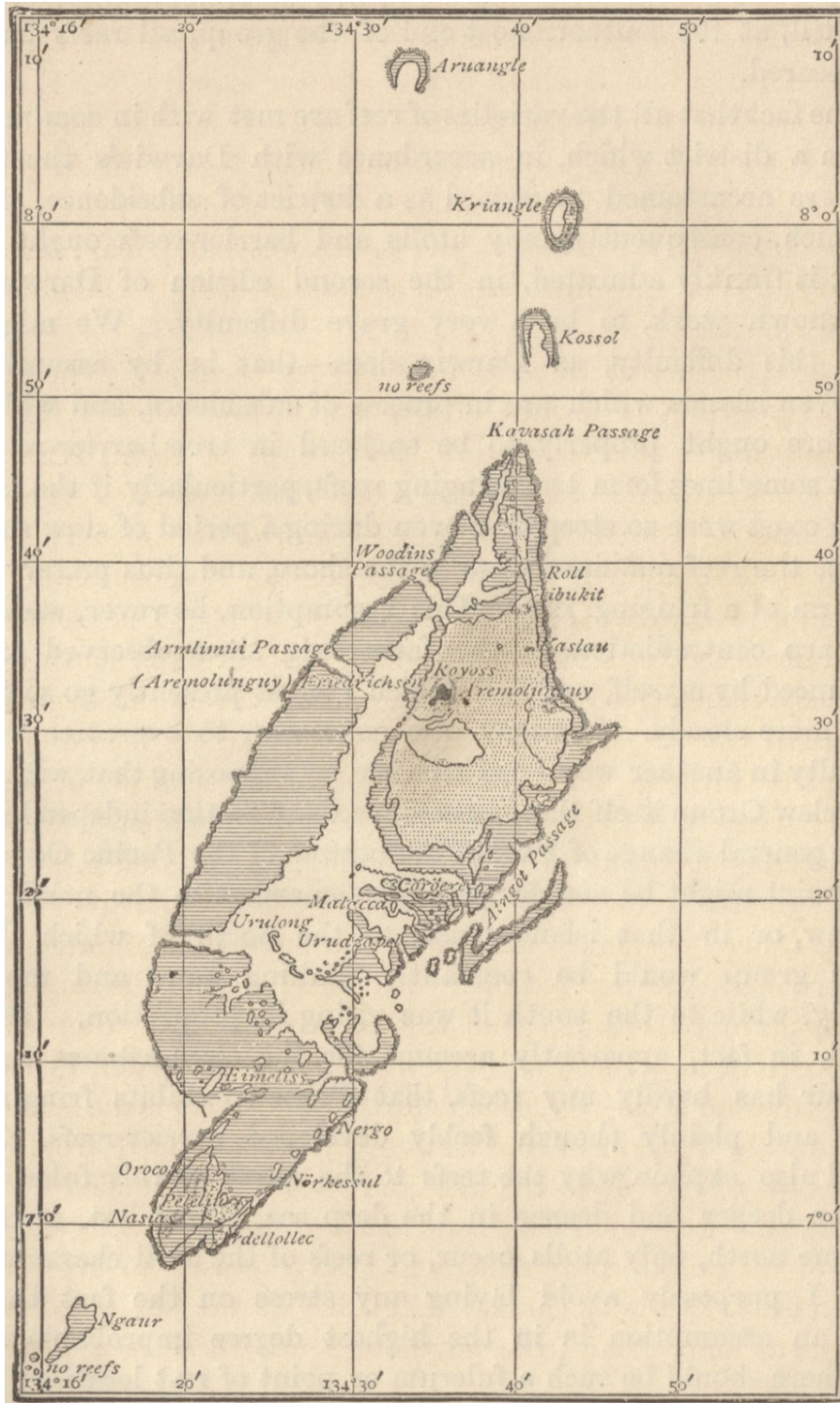


Figure 2: General sketch-map of the Pelew Islands in the Pacific  
from Karl Semper, *Animal Life as Affected by The Natural Conditions of Existence* (New York: D. Appleton and Company, 1881), 235



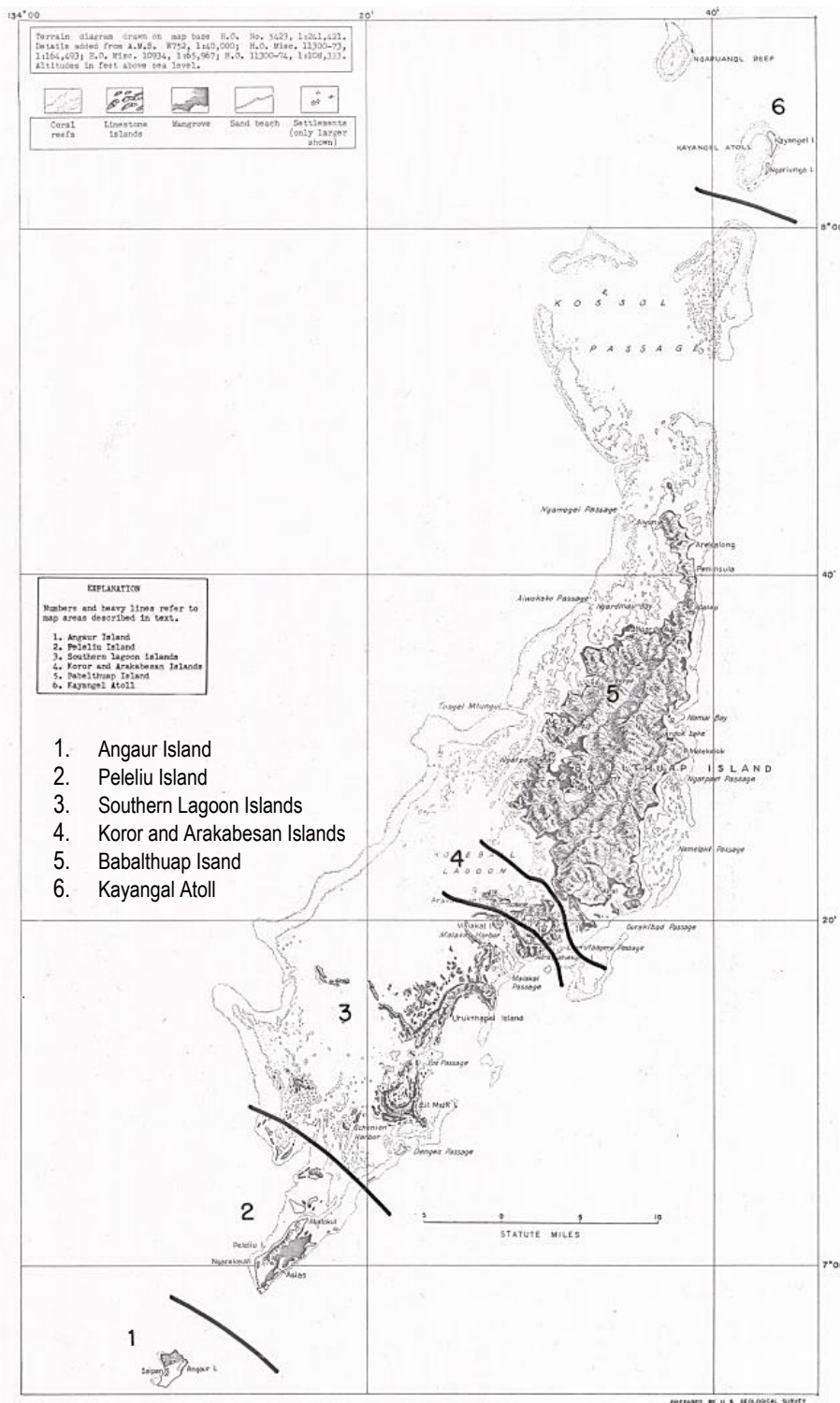


Figure 3: Terrain Appreciation Map of Palau 1944  
 from U.S. Geological Survey for Chief of Engineers, U. S. Army



## Volcanic Islands

Babeldaob, Koror, Arkebesang, Malakal and Ngemelachel are volcanic islands around which coral formations have built up to form the reefs. The erupted material consists of basalt, andesite and dacite.

Although the eruptions were submarine, the islands were formed by subsequent uplift.

Babeldaob is the largest island with a land area of one hundred and fifty three square miles. It is twenty seven miles long and nine and three quarters of a mile at its widest part.<sup>7</sup> The interior uplands are formed by three low ridge systems and have a maximum elevation of seven hundred and ninety four feet above sea level. The low ridge system is heavily eroded giving Babeldaob an undulating terrain. The shores of Babeldaob are fringed by mangrove forests, with beaches only on the east coast.

Koror has an area of seven square miles. It has a rugged limestone ridge on the eastern end of the island and undulating terrain over volcanic rock for the western two thirds of the island.

## High limestone Islands

The rock islands between Koror and Peleliu are heavily eroded remnants of what was once an exposed limestone reef. Heavy surf has eroded the intertidal zone forming deep undercuts of the forest-capped mushroom-shaped islets.

## Low Platform Islands

Angaur and Peleliu are low-platform reef islands.

## Coral Atoll

Kayangel atoll is comprised of several low sand islands on the flat reef.

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<sup>7</sup> Geological Survey, *Engineering Study No 110*.

## People of Palau

Palauan society is highly complex and sophisticated. It follows a matrilineal system that is still evident in many traditional Palauan practices; in funerals, marriage, inheritance and the passing of traditional titles. Traditionally, men and women had strictly defined roles in their community.

Prestige, power and wealth were, and still are, vital for political power within the community. Palauan villages were, and still are, organized around clans. A council of chiefs from ten ranking clans governed the village and a council of ten women from ranking clans held significant roles in the control and division of land and money.

It is believed that native Palauans are of mixed Melanesian, Micronesian and Austronesian descent, and some Palauans also have Japanese / Asian ancestry. Despite the influence of generations of explorers, traders, soldiers and administrators from several nations, Palauans still maintain cultural traditions that make it unique in the Pacific.

## Climate of Palau

Palau has a maritime tropical climate; hot and humid. It has a pleasantly warm climate all year round with an annual mean temperature of eighty two degrees Fahrenheit (twenty seven degrees Celsius). Palau has two seasons; the rainy season which begins in May and peaks in September and the dry season which runs from October to April. The annual average rainfall is approximately one hundred and fifty inches, and the average relative humidity is eighty two percent. Although typhoons are rare as Palau is located outside the typhoon zone, tropical storms may occur between June and November.<sup>8</sup>

Climate change poses a real threat to Palau. Although Palau has plentiful rainfall, increasing atmospheric temperatures and saltwater inundation as a result of climate change may threaten freshwater supplies. Palau is subject to severe tropical storms, with increasing storm frequency and intensity associated with climate change.

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<sup>8</sup> *Palau Visitors Authority*, accessed November 8, 2012, <http://www.visit-palau.com>

## Flora and Fauna of Palau

Palau has great terrestrial and marine biodiversity. Plant life is abundant throughout most of the islands. The forests of Babeldaob contain approximately one hundred and eighty six species of trees from more than fifty different families. It is estimated that one hundred and thirty species are native, and fifty seven species are believed to be endemic. The tree species are from five main categories; mangrove and freshwater swamp forests, strand and lowland vegetation, interior upland forest, ravine and riparian forest and savanna.<sup>9</sup> The rock islands sustain different vegetation than the main islands.

Food crops such as taro, cassava, sweet potato, coconut, banana, papaya are cultivated and harvested for local consumption.

Marine life is abundant. Palau has over one thousand five hundred species of tropical fish, seven hundred species of coral and anemones and ten species of sea grass (there are sixty species of sea grass globally) in the lagoons and reefs.<sup>10</sup>

According to a 2006 report issued by the International Union for Conservation of Nature and Natural Resources (IUCN), threatened species included 3 types of mammals, 2 species of birds, 6 species of fish, 5 types of mollusks, and 3 species of plants.<sup>11</sup>

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<sup>9</sup> *palauconservation.org*, accessed November 8, 2012,  
<http://www.palauconservation.org/cms/images/stories/resources/pdfs/fsTrees.pdf>

<sup>10</sup> *palauconservation.org*

<sup>11</sup> *palauconservation.org*

# Chapter One: Cultural Perspectives and Value Conflicts

## Introduction

This chapter identifies and acknowledges the importance of awareness of cultural perspectives in the interpretation and understanding of the phenomena of life and its environment; both physical and social. Traditionally, the ancient wisdom of Pacific island cultures was passed down through generations, both orally and in mastery of skills. Oral transmission of knowledge included chants, songs, oratory and narration of legends, and recitation of genealogy. In Palau, the art and symbolism in the ornamentation of their bai were physical manifestations of their culture

In Euro American culture, great importance is attached to scientific and intellectual knowledge. The quote "Knowledge is power" has been attributed to Francis Bacon in 1597. He was an English philosopher, statesman and scientist whose work established and popularized the framework and methodologies of the scientific method.<sup>12</sup>

The scientific method is an empirical system of investigating phenomena that must be quantifiable. It is a system of assimilating new information, and incorporating it into, or correcting, existing knowledge. When knowledge of a phenomenon is quantified it may become a valuable commodity on which a monetary value can be placed. When knowledge is marketed as a commodity it becomes available to few but the elite. In many cultures formal education has become a commodity with access to mainly the privileged and wealthy.

## Knowledge

Knowledge may be defined as the sum of what is known: the body of truth, information, and principles acquired by humankind. It is familiarity with facts, information or skills which have been acquired through experience, observation or education or a combination thereof. The acquisition of knowledge involves many complex analytical and interpretive processes involving perception and communication. Different forms of

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<sup>12</sup> Brian Vickers, "Francis Bacon and the Progress of Knowledge," *Journal of the History of Ideas* 53 (1992): 515 - 516

knowledge may be the practical and/or theoretical understanding of a subject. "Knowledge is rarely completely divorced from power, and interpretation is too often an expression of convenience."<sup>13</sup>

### Situational knowledge

Situational knowledge is generated through trial and error, or learning from experience. Situational knowledge is often embedded in language, culture, or traditions.

### Partial knowledge

In most cases, our knowledge is incomplete or partial. The fact that we do not know everything, and that our knowledge is inadequate, does not invalidate the knowledge which we do possess. Most problems have to be solved by taking advantage of a partial understanding of the problem context and problem data. In life situations people often have limited information and make decisions accordingly.

### Scientific knowledge

Science is the investigation of the physical and natural world using systematic observation. It is based on experimentation, measurement, and objective evaluation. As knowledge is proportional to the capacity of the mind, higher intellects may unravel mysteries of nature. Scientific study is done to acquire new knowledge, or correct and augment existing knowledge. The process of scientific progress is to find connections between various matters and concepts, and to proceed from the known to the unknown. The development of the scientific method has made a significant contribution to how knowledge is acquired.

The Euro-American approach to scientific inquiry requires systematic methodologies. The general procedure is a linear progression commencing with the formulation of the question, followed by the articulation and prediction of a hypothesis. This hypothesis is tested in an appropriate manner and the results recorded. The results are analyzed, interpreted, documented and published. For a scientific study to be considered valid, the testing, analysis and interpretation of the results must meet particular criteria. The study must be ethical, unbiased, accurate and repeatable.

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<sup>13</sup> Wade Davis, *Wayfinders: Why Ancient Wisdom Matters in the Modern World* (Toronto: House of Anansi Press Inc., 2009), 64

The formulation of the question involves the research and evaluation of previous evidence from other scientific studies. It may refer to the explanation of a specific observation. The hypothesis is a theory that may explain the observed behavior of a part of our universe. The logical consequence(s) of the hypothesis are determined and selected for testing.

The test is the investigation of whether the subject behaves as predicted by the hypothesis. Experiments are devised to observe whether the test results correspond with the predictions of the hypothesis. Experiments are designed to minimize possible errors through the use of appropriate scientific controls. Observable and measurable evidence subject to specific principles experimentation is gathered. The failure of an experiment does not necessarily mean the hypothesis is false. It may be due to failure of an auxiliary hypothesis such as correct calibration and performance of the test equipment.

With advances in technology currently available, science is now quantifying and proving much ancient wisdom.

### Communication and Transfer of Knowledge

Symbolic representations are used to indicate meaning and can be used to transfer knowledge. Traditionally, petroglyphs of Paleolithic caves, hieroglyphics of the Egyptians, and runes communicated ideas of religion, art, science and mathematics. Through the millennia the volume of human knowledge increased to a degree that it became necessary to record it and communicate through more efficient media; the printed word. Today libraries have millions of books, both printed and electronic, of knowledge.

Other forms of communicating knowledge include verbal exchange, and observation and imitation. Although traditionally, verbal teaching and passing on of knowledge was limited to those who had contact with the tutor, electronic technologies (audio and visual) for recording knowledge have made it more accessible.

## Time

For most diurnal animals, the day naturally begins at dawn and ends at sunset. Humans employ different measures of day, based on their earth in relation to its sun and other extraterrestrial entities. Time is a human construct to interpret the world. The ancient Egyptians divided the daylight between sunrise and sunset into ten hours, which they measured with devices such as sun dials. Their hour of twilight at dawn and dusk separated day and night. The ancient Egyptians divided night into twelve hours, based on the number of "decan" stars which were seen to rise during summer nights.<sup>14</sup> They used clepsydra, water clocks, to measure time at night. The actual length of the solar day varies throughout the year due to the difference in the speed of revolution of Earth around the Sun. Although the length of ancient Egyptian hours varied, they had twenty four hours in a day. Our civilization adopted the concept.

When the Greeks needed a measure of time to have a consistent defined length for theoretical calculations, Hipparchus proposed dividing the day equally into 24 hours.<sup>15</sup> Much Greek theory was developed from Babylonian concepts. Babylonian astronomical computations used the sixigesimal system, a base of sixty. It is believed that the Babylonians counted on their hands using the (twelve) segments between the joints of the fingers. The number sixty is better divisible without fractions than is our base decimal system of ten. Sixty is divisible by one, two, three, four, five, six, ten, twelve, fifteen, twenty and thirty. The seemingly arbitrary units of sixty minutes in an hour, and sixty seconds in a minute are inherited from the Babylonian number system.

## Measure of time

Traditionally for ordinary people the time of the day was a local matter. Most European cities and towns used some form of local mean solar time. People continued to use the seasonally varying hours, working short hours in the winter and long hours in the summer. Their measure of hours by water clocks,

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<sup>14</sup> Karen Masters, Curious About Astronomy, last modified April 5, 2002, accessed October 25, 2012  
<http://curious.astro.cornell.edu/question.php?number=594>

<sup>15</sup> Curious About Astronomy, Karen Masters

candle clocks and sand glasses was not authoritative. The ringing of church bells was a summons, for celebration, warning or mourning.

On sailing ships, the ship's bell was struck to mark the passing of hours. The day was divided into six, four hour "watches" starting at midday. The bell was rung every half hour and a strike added each half hour. An odd number of bells were struck on the half hour, and an even number on the hour. The sequence continued until eight bells were struck, signaling the end of the watch. Another company of sailors would then come on duty and the sequence would recommence. A sailor on duty could tell the time by listening to the bells and knew just how long before he would be relieved by the next watch. "Eight bells" in nautical vernacular meant "finished", as in the end of the watch.

With the advent of mechanical clocks in Europe, the ringing of bells became a measure of time.

Traditionally a second of time was a 1/86,400 measure of a day, the time taken for one complete revolution of the earth on its axis. This was based on the assumption that every rotation of the earth is perfectly identical. Contemporary civilization, with our cultural norms and scientific knowledge, has necessitated internationally agreed standards of measure. It has redefined the measure of time. "The second is the duration of 9 192 631 770 (9,192,631,770) periods of the radiation corresponding to the transition between the two hyperfine levels of the ground state of the caesium 133 atom."<sup>16</sup>

Time is one of the seven measures in The International System of Units; the others being units of length, mass, electric current, thermodynamic temperature, amount of substance and luminous intensity.<sup>17</sup>

Time is used to define and explain other phenomenon in scientific terms.

Today, we move in measured time by authority of the clock. Time is of significant social importance, having economic value.

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<sup>16</sup> Organisation Intergouvernementale de la Convention du Mètre, *The International System of Units (SI)* (Sevres: Pavillion de Breteuil, 2006), 93

<sup>17</sup> Organisation Intergouvernementale de la Convention du Mètre, *The International System of Units (SI)*, 86



## Traditional Celestial Navigation/Wayfinding

Celestial navigation is a way finding technique that has evolved through the millennia to help sailors cross oceans. Celestial navigation is the knowledge of the relationships between celestial bodies and the visible horizon to enable determination of location. It is the type of traditional knowledge at the core of Pacific island culture.<sup>18</sup>

“Oceanic seafarers look to heavenly bodies, ocean swell, winds and other signs supplied by nature to set their course, steer, track their canoe, make course corrections and home in on islands before they can be seen.”<sup>19</sup> Traditional Pacific island navigators had the knowledge for successful blue water sailing without the assistance of special instruments. They had the skills to see in the ocean environment everything they needed to guide them. They had a wholistic view of the world and could sense the direction of their canoes through the soles of their feet, the wind in their face, the sound of the waves against the canoe.

The celestial compass of traditional Pacific island navigators was a system of 32 stars whose positions and movements they memorized. Interpretation of their knowledge of the night sky and movement of the stars in relation to known islands was their guide.

Traditional Pacific island navigators also had techniques for remote sensing of land. The visual range of detecting land on the horizon during daylight, depending on the height of the island, is approximately ten miles. By knowing various species of land nesting birds that daily fish at sea at a limited distance from land, the traditional Pacific island navigators could recognize indicators of land beyond the horizon from a distance of over twenty miles.<sup>20</sup> Another visual indicator of land beyond the horizon was cloud formations above the island. Green colored reflections onto the underside of clouds indicate shallow atoll lagoons.

Land beyond the horizon could be detected by sensing characteristic disruptions in the ocean swells caused by islands. Waves reflected back from the shore change the rhythm of the swells about fifteen to

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<sup>18</sup> William Murtagh, *Keeping Time: The History and Theory of Preservation in America* (Hoboken: John Wiley & Sons, Inc., 2006), 142

<sup>19</sup> Ben Finney, "Traditional Navigation," in *Waka Moana: Voyages of the Ancestors*, ed K Howe (Auckland: David Bateman Ltd, 2006), 155

<sup>20</sup> Finney, "Traditional Navigation," 168 - 172

twenty miles off shore.<sup>21</sup> By noting the wave frequency and direction the traditional Pacific island navigators could adjust their direction to successfully reach their destination. In their journeys between islands the traditional Pacific island navigators adjusted their trajectory to accommodate ocean currents and wind direction and intensity. They gauged their canoe speed by watching or listening to the water against their canoe.

“David Turnbull, a scholar who specializes in indigenous knowledge systems, considers Oceanic navigation to belong to an alternative scientific tradition to that on which modern navigation methods are based. He also rejects the application of such terms as reckoning, abstract calculation and computing to the ways Oceanic seafarers solve navigational problems”<sup>22</sup>

### Euro American Navigation

Because European ships were larger than Palauan canoes, they had greater endurance and could operate for periods of months and years. The sailing ships navigator required accurate time and a sextant to procure data for the calculation of latitude and longitude to plot the ships course on navigational charts. With the invention of accurate chronometers, European position fixing and their maps became more accurate.

Chronometers were sensitive instruments kept in a dry room near the center of the ship to avoid exposure to the wind and salt water. They were used to set a watch for the actual navigational readings. It was the navigator’s duty to wind and compare the chronometers. At the beginning of the voyage he checked his chronometer from his sextant, at a geographic marker surveyed by a professional astronomer

“The instrument navigator inhabits the world of abstractions. He segments the heavens into bits of observable phenomena – single stars, the moon, the sun – which he observes with instruments”.<sup>23</sup> Celestial navigation uses angular measurements between celestial bodies and the visible horizon to enable determination of location. At a given time, any celestial body is located directly over one point on the Earth's

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<sup>21</sup> Finney, "Traditional Navigation," 173

<sup>22</sup> Finney, "Traditional Navigation," 185

<sup>23</sup> Finney, "Traditional Navigation," 186

surface. The latitude and longitude of that point can be determined from tables in the Nautical Almanac for that year. By using his sextant the navigator could measure and calculate the altitude of the celestial body, consult his astronomical tables, then calculate and plot the ship's location on a navigational chart. Then he would sail by compass until it was time to record the next observation.<sup>24</sup>

## Longitude

Accurate knowledge of time over long sea voyages was necessary for navigation. Estimating longitude during long sea voyages depended on accurate time measurement. Since the Earth rotates three hundred and sixty degrees per day, there is a direct relationship between time and longitude. The earth rotates fifteen degrees every hour. If the ship's navigator knew the time at a fixed reference point when an event occurred at the ship's location, the difference between the reference time and the apparent local time would give the ship's longitudinal position relative to the fixed location. A sextant could be used to determine apparent local noon. The challenge was how to determine the time at a distant reference point while on ship. During his circumnavigation of the world in 1522, Magellan operated eighteen hour glasses on his ship to measure time.<sup>25</sup>

In the mid eighteenth century John Harris produced a chronometer that satisfied the requirements for a ship-board standard time keeper. His H4 chronometer design in 1761 used a fast-beating balance wheel controlled by a temperature-compensated spiral spring.

In 1884 the International Meridian Conference adopted the Greenwich meridian as the Universal Prime Meridian or Zero point of longitude.<sup>26</sup> Longitude is given as an angular measurement ranging from zero degrees (0°) at the Prime Meridian to positive one hundred and eighty degrees (+180°) eastward and negative one hundred and eighty degrees (-180°) westward.

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<sup>24</sup> Finney, "Traditional Navigation," 186

<sup>25</sup> Brian Cox and Andrew Cohen, *Wonders of the Universe* (New York: HarperCollins Publishers, 2011), 209

<sup>26</sup> *International Conference for the Purposes of Fixing A Prime Meridian and A Universal Day* (Washington: Gibson Bros. Printers and Bookbinders, 1884) Google Books.

## Latitude

A ship's latitude could be ascertained by measuring the angle of the midday sun, or the angle of the north star, Polaris, above the horizon. Latitude can also be determined by the direction in which the stars travel over time.

## Chapter Two: Pre-contact Palau

### Introduction

This chapter describes traditional Palau, as described by both Palauans and early visitors with written documentation as source material. Historical writings by early visitors may have cultural bias. Due to the scientific theories of the time, many people of European origin believed they were a superior race, and did not recognize the sophistication of Palauan society. The descriptions are important because they provide a basis for comparison between original traditional practices as described in this chapter and what is considered contemporary traditional as described in later chapters. The comparisons will demonstrate changes within the culture due to colonization and globalization.

One brief example is that of diet; the foundation of the original traditional diet was taro and fish, but contemporary traditional appears to be rice and pork/chicken. It is likely that rice was introduced from the eastern nations of the Asian continent and animals for meat consumption were introduced by western nations.

### Mythology of The Creation of Palau: The Legend of Chuab

Long ago Palau had only two islands, Ngeaur and Beliliou. Latmikaik was the goddess of Ngeaur, and she had two daughters, Chuab and Tellebuu.<sup>27</sup> They lived in the house of Ngetelkou.<sup>28</sup>

Chaub was no ordinary baby; she kept growing taller and larger. She grew so big that the people of Ngebeanged could no longer reach her mouth to feed her. Soon even the ladders they climbed to feed her were not tall enough.<sup>29</sup> The villagers were worried; Chuab was eating all their food.<sup>30</sup>

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<sup>27</sup> Rechebei and McPhetres, *History of Palau*, 17

<sup>28</sup> "Palauan Legends: Chuab the Giant: Belau Creation Story," 2010, accessed November 16, 2012  
<http://www.belaunationalmuseum.org/legends/legends-chuab.htm>

<sup>29</sup> "Palauan Legends: Chuab the Giant: Belau Creation Story"

<sup>30</sup> Rechebei and McPhetres, *History of Palau*, 17

When Chuab reached the clouds, the people of Ngebeanged went to Latmikaik for her advice.<sup>31,32</sup> Latmikaik sadly agreed that they had to stop Chuab from devouring all their food and from growing stronger.<sup>33</sup> The people of Ngebeanged constructed a huge building. They convinced Chuab that it was built in her honor and they would have a huge feast. When Chuab sat in the center of the building, the people of Ngebeanged set it alight.<sup>34</sup> Fire engulfed the building and Chuab fell as the building collapsed. Her body scattered to form various places in Belau.<sup>35,36</sup> Because she was a demi-god, Chuab knew of the people's intentions, so she knowingly sacrificed her body for the people.<sup>37</sup> The name Belau may originate from the *aibebelau* (indirect replies) the people of Ngebeanged gave Chuab about the activity to burn her down.<sup>38</sup>

The people of Ngebeanged used mats and branches to try to cover Chuab's body. The places where Chuab was covered eventually became the forests of Palau.<sup>39</sup> In her narration of the legend Elizabeth Rechebei states that "Over time, people emerged out of Chuab's flesh and settled in the islands of Palau"<sup>40</sup>

Perhaps the legend of Chuab may be viewed as an allegory for the tectonic movements between the Philippine Plate and the Pacific Plate and the volcanic activity which created the larger islands of Palau.

## Archaeology

There are many theories on how Oceania became inhabited. One currently accepted theory is that Pacific migrations began when ancestors of the Polynesians left Taiwan around 5200 years ago. The migratory route followed land masses of the Philippines, Indonesia and the northern coast of Papua New Guinea, through the Solomon Islands to Samoa and Tonga (Melanesia), and from Tahiti to Hawaii, the Cook

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<sup>31</sup> "Palauan Legends: Chuab the Giant: Belau Creation Story"

<sup>32</sup> Rechebei and McPhetres, *History of Palau*, 17

<sup>33</sup> Rechebei and McPhetres, *History of Palau*, 17

<sup>34</sup> Rechebei and McPhetres, *History of Palau*, 17

<sup>35</sup> "Palauan Legends: Chuab the Giant: Belau Creation Story"

<sup>36</sup> Rechebei and McPhetres, *History of Palau*, 17

<sup>37</sup> "Palauan Legends: Chuab the Giant: Belau Creation Story"

<sup>38</sup> "Palauan Legends: Chuab the Giant: Belau Creation Story"

<sup>39</sup> Rechebei and McPhetres, *History of Palau*, 17

<sup>40</sup> Rechebei and McPhetres, *History of Palau*, 17

Islands and New Zealand. This route has been traced through archaeological studies of Lapita pottery fragments. Cultural and linguistic studies reveal linkages between Hawaii, the Cook Islands and New Zealand. Palau is linked linguistically to Indonesia.

“The human settlement of the culturally and linguistically heterogeneous Micronesian Islands is more complex. It was likely settled from several directions at different times, and based on evidence from linguistics, archaeology, and genetics, several nonexclusive hypotheses have been proposed.”<sup>41</sup> Theories proposed by Nyree Zerega, Diane Ragone, and Timothy Motley’s study of “Complex Origins of Breadfruit (*Artocarpus Altilis*, Moraceae): Implications for Human Migrations in Oceania” are that migrations to Palau originated in Melanesia and voyaged either directly to Palau or through central-eastern Micronesia. They argue that “Because breadfruit movement through the Pacific islands was human-mediated (cultivars are either seedless or have short-lived seeds that would not survive long ocean voyages), understanding breadfruit’s origins is not only useful for agronomic and conservation purposes, but can also provide information about human migrations in the Pacific”<sup>42</sup>

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<sup>41</sup> Nyree Zerega, Diane Ragone and Timothy Motley, “Complex Origins of Breadfruit (*Artocarpus Altilis*, Moraceae): Implications for Human Migrations in Oceania,” *American Journal of Botany* 91(5) (2004): 761

<sup>42</sup> Zerega, Ragone and Motley, “Complex Origins of Breadfruit,” 761

## Archaic Period

Archaeological evidence suggests that Palau has been occupied since between 1500 and 800 BCE. Osborne named this time period the Archaic period.<sup>43</sup> During the Archaic period settlements developed on the volcanic islands of Babeldaob, Koror and Malakal and the platform islands of Angaur and Pelilieu. . "It is supposed that habitat preference and selection during the initial colonization phase was toward culturally familiar landscapes, and as a result dispersal into unfamiliar or adverse habitats took place only when adequate knowledge had developed (Steele and Rockman 2003)"<sup>44</sup>

## Early Period

The Lower Early period from 800 BCE to 400 CE was a formative period, when earthworks were begun. Pottery shards found at archaeological sites suggest Malaysian influences during the Lower Early period.

The Middle Early period or the classic period stretched from 400 CE to 900 CE. There was terrace building and megalithic work. Some terraces are still visible inland off Babeldaob's north western coastline. The hilltops of these terraces have panoramic views over the adjoining region. The peaks of some of the terraces are surrounded by concentric rows of trenches. These trenches which may indicate the hill tops were also used as fortifications. If terraces were for constructed agriculture, perhaps for the growing of dry taro, the accessibility to adequate fresh water supplies may have been problematic. Archaeological work continues on uncovering massive stone retaining walls, paths and house platforms in the high country near the terraces.

There is evidence that there was exterior trade, possibly with the Philippines during the Middle Early period. As the sea currents or drift patterns run from Palau to the Philippines, it is probable that the contact from the Philippines with Palau was not accidental.

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<sup>43</sup> Douglas Osbourne, "Archaeology in Micronesia: Background, Palau Studies and Suggestions for the Future," *Asian Perspectives: The Bulletin of the Far-Eastern Prehistory Association* (1961): 159

<sup>44</sup> Geoffrey Clark, Atholl Anderson, and Duncan Wright, "Human Colonization of the Palau Islands, Western Micronesia," *Journal of Island and Coastal Archaeology* (2006): 228



There is archaeological evidence of pigs in Palau from a midden in a cave in the rock islands. Carbon dating of pig bones found in the midden returned a date of 500 – 900 AD. As pigs are not indigenous to Palau, and their survival in the wild in the rock islands would be unlikely, this may be evidence of the agricultural expertise of early Palau.

The Upper Early period or the Late Classic period, from 900 CE to 1400 CE, saw the end of terrace building and megalithic activity and the end of important exterior contacts.

### Late Period

The Lower Late period, from 1400 CE to the end of 1500 CE, was the final period of terrace use. There was a movement from the volcanic island to the reef islands. This may indicate that the early colonization of Babeldaob failed, or some major event occurred on Babeldaob that necessitated evacuation to the rock islands. Future archeological research may reveal the cause.

In 1520 Magellan sailed through Micronesia, stopping briefly in Guam but there is no mention of Palau. "In reality many people from China, The Philippines, Malaysia, and elsewhere may have visited the islands but not recorded it"<sup>45</sup> Spanish and Portuguese sailing ships were exploring the Pacific ocean in search of safe trade routes to the Indies for teas, spices, silks and other luxury items for the European markets. The Portuguese found a route around Africa and through the Indian Ocean. At that time the Catholic church was an influential political force. A decision by the Pope and an international treaty denied the Spanish the right to use the African route. The Spanish found a route around South America and across the Pacific.

During the Middle Late period, from 1600 CE, Koror and Babeldaob were resettled and the reef islands abandoned.<sup>46</sup> Spanish Catholic Missionaries were aware of the existence of the Palau islands from the arrivals of seafaring Palauans who had been blown off course in their journeys and had drifted to the Philippines. The Spanish monarchy no longer sought to acquire new colonies, but was dedicated to the

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<sup>45</sup> Palau Community Action Agency, *A History of Palau Volume One: Traditional Palau, The First Europeans* (Koror: Palau Community Action Agency, 1976), 84

<sup>46</sup> Osbourne, "Archaeology in Micronesia," 159

Christianization of heathens. In 1710 two Jesuit priests were landed on Sonsorol Island to promulgate Christianity, but were never seen again by passing ships.<sup>47</sup>



Figure 4: View of Part of the Town of Pelew, and the place of Council engraving by W. and J. Walker, T Malton, after a sketch by Robert White from Keate, *Account of the Pelew Islands* (London, 1788).  
from Keate, *Account of the Pelew Islands* (London, 2002)

## Social structure

Palau was (and is) a matrilineal society. Women were the repositories of titles and the titles bore the authorities and responsibilities of the position. When the title holder died, the title reverted back to the women who would then pass it on to a qualified member of a chiefly line.<sup>48</sup>

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<sup>47</sup> Francis Hezel and M Berg, *Micronesia: Winds of Change: A Book of Readings on Micronesian History* (Saipan: Omnibus Program for Social Studies-Cultural Heritage, Trust Territory of the Pacific Islands, 1979), 52

<sup>48</sup> Rechebei and McPhetres, *History of Palau*, 36

Palau's social structure was (and is) a community based culture that lived within a subsistence financial system. Every individual within the community had specific roles and duties which were vital to the continued success of the community.

## Government

Traditionally, Palau was divided into many different geographic areas, beluu. Each beluu had its own government, administered by councils of ranking men and women. The leadership structure of the men was an organized klobak council of ten rubak. The rubak were men of rank from within the beluu who had been selected from potential candidates by ranking women elders to preside over their beluu.<sup>49</sup> Rank was based on family background, but could be increased through competition and demonstrations of excellence in skills and abilities.

The rubak of the klobak council were the executive, legislators and judiciary of their beluu. They established and disseminated policies for the administration and management of their beluu.

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<sup>49</sup> Rechebei and McPhetres, *History of Palau*, 36

## Chapter Three: The Built Environment

### Introduction

This chapter provides an overview of the layout of the villages of Koror, Airai and Melkeok, from written descriptions and images from various time periods to current (from 2005 census). These three villages were selected because early visitors to Palau wrote about them, and each still have at least one bai.

### Henry Wilson

After arriving at Koror to visit Ibedul, Captain Henry Wilson and his crew “found themselves on a fine broad causeway, or pavement, with rows of trees on each side” leading to the settlement.<sup>50</sup> The pavement was about two feet above ground level, and ten feet wide, “having a broad flat stone running along the middle, for greater conveniency of walking; it was paved on each side with stones of smaller size, and less worked.”<sup>51</sup> The pavements headed in various directions; “one conducting to where some of their boat-houses were erected, the other to their bathing-place.”<sup>52</sup>

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<sup>50</sup> George Keate, *An Account of the Pelew Islands* ed. Karen Nero and Nicholas Thomas (London: Leicester University Press, 2002), 122

<sup>51</sup> Keate, *An Account of the Pelew Islands*, 122

<sup>52</sup> Keate, *An Account of the Pelew Islands*, 122

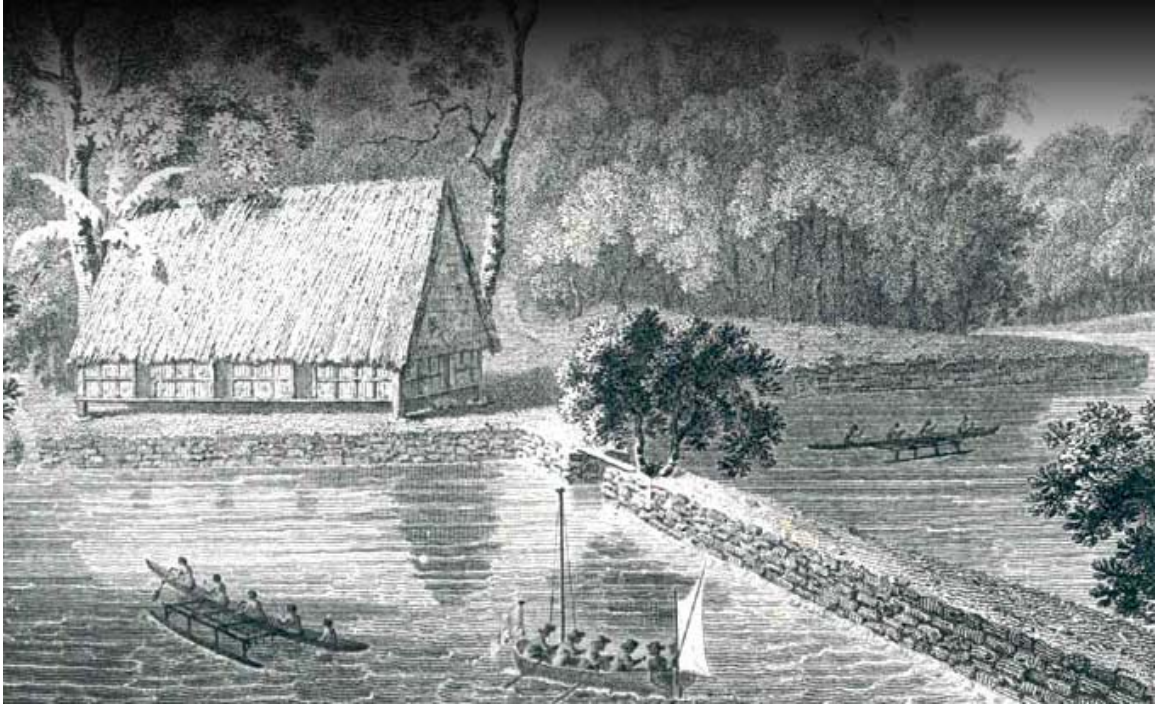


Figure 5: 'View of the Causeway or landing place at Pelew' engraving by T. Landseer, after a drawing by T. Malton, which was 'after a Sketch on the Spot by J. Wedgebrough'. From George Keate, *An Account of the Pelew Island*, ed. Karen Nero and Nicholas Thomas (London: Leicester University Press, [1803] 2002), 120

When they reached the town “they came to a large square pavement, round which were several houses”<sup>53</sup> The bai centered on one of the sides of the square pavement was their designated place to sleep while they stayed in Koror.<sup>54</sup> The following morning the Palauans held a meeting on the square adjacent their bai. A number of rubak were “seated each on a single stone, placed near the outer border of the pavement” and the seat for Ibedul “was more elevated then the rest; and close to the side of it was a stone still higher, on which he occasionally rested his arm.”<sup>55</sup>

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<sup>53</sup> Keate, *An Account of the Pelew Islands*, 122

<sup>54</sup> Keate, *An Account of the Pelew Islands*, 123

<sup>55</sup> Keate, *An Account of the Pelew Islands*, 129

George Keate's description of the Palauan's houses does not differentiate clearly between the bai and blai. Perhaps the descriptions from which he gleaned his information were unclear. During the short times that the English spent in Koror, they were hosted by the Palauans in one of their bai. Where he writes that some of the houses "were from sixty to eighty feet in length, but these were appropriated to public uses"<sup>56</sup> that he was describing the bai is unmistakable.

Where he writes that,

Their houses were raised about three feet from the ground, placed on large stones, which appeared as if cut from the quarry, being thick and oblong; on these pedestals the foundation beams were laid, from whence sprang the upright supports of their sides, which were crossed by other timbers grooved together, and fastened by wooden pins;<sup>57</sup>

it is apparent he is describing the bai. "On the top of the upright sides beams were laid across, from whence sprang the roof, which was pointed like our barns, the whole inside being clear;" and the roof was thatched with bamboo and palm leaves.<sup>58</sup> "Their windows came to the level of the floor, and served both for doors and windows, having stepping stones at all of them to enter by."<sup>59</sup>

However, George Keate's description of the house's walls having "the intermediate spaces closely filled up with bamboos and palm-leaves, which they platted so closely and artificially as to keep their habitations warm and exclude all wet"<sup>60</sup> is more consistent with walls of the blai. His description of the houses as having bamboo framed woven shutters which could be slipped across the openings for security from the elements is also more consistent with the blai, as the bai had an extended overhanging roof.<sup>61</sup>

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<sup>56</sup> Keate, *An Account of the Pelew Islands*, 237

<sup>57</sup> Keate, *An Account of the Pelew Islands*, 237

<sup>58</sup> Keate, *An Account of the Pelew Island*, 237

<sup>59</sup> Keate, *An Account of the Pelew Islands*, 237

<sup>60</sup> Keate, *An Account of the Pelew Islands*, 237

<sup>61</sup> Keate, *An Account of the Pelew Islands*, 237





Figure 6: Pacific Island scene  
showing ornamented shelter, water-color by Arthur Devis, 25.4 x 19.5 cm. NK52/Q T440.  
By permission of the National Library of Australia, Canberra. From George Keate, *An Account of the Pelew Island*,  
ed. Karen Nero and Nicholas Thomas (London: Leicester University Press, 2002), 21

George Keate's description of the floor of the houses as generally being "of very thick plank" but others being of "large bamboos split"<sup>62</sup> is consistent with the difference between bai and blai. He describes the interior of the houses as being "one great room",<sup>63</sup> with the family house having one central fireplace, sunken below the floor, while "in the larger buildings, where they held their public meetings, they had a fireplace at each end."<sup>64</sup> He concludes his descriptions of houses by writing, "Those which were more properly domestic habitations, were the same, both in shape and texture, though less in dimension."<sup>65</sup>

When the English returned to Koror in January 1791, a new bai had been built using the tools given by the departing Captain Wilson and his crew of the *Antelope* / *Oroolong*. In *A Supplement to the Account of the Pelew Islands* John Hockin writes that the bai was approximately sixty feet long and twenty feet wide;<sup>66</sup> "the roof is high, having a great slope: the thatching is a most ingenious performance, having been done with the cocoa-nut leaf"<sup>67</sup> His descriptions reveal that the construction of the new bai followed the traditional methods previously described by George Keate. "The beams are laid about seven feet high above the floor, curiously carved, and so nicely fitted to the supporters that they appear as one piece of timber"<sup>68</sup> Many of the floor planks were three to four feet wide, "joined so closely that a pin could not pass between them"<sup>69</sup>

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<sup>62</sup> Keate, *An Account of the Pelew Islands*, 237

<sup>63</sup> Keate, *An Account of the Pelew Islands*, 237

<sup>64</sup> Keate, *An Account of the Pelew Islands*, 237

<sup>65</sup> Keate, *An Account of the Pelew Islands*, 238

<sup>66</sup> John Hockin, "A Supplement to The Account of the Pelew Islands" in. *An Account of the Pelew Islands*. ed. Karen Nero and Nicholas Thomas (London: Leicester University Press, [1803] 2002), 289

<sup>67</sup> Jockin, "A Supplement to The Account of the Pelew Islands," 289

<sup>68</sup> Hockin, "A Supplement to The Account of the Pelew Islands," 289

<sup>69</sup> Hockin, "A Supplement to The Account of the Pelew Islands," 289



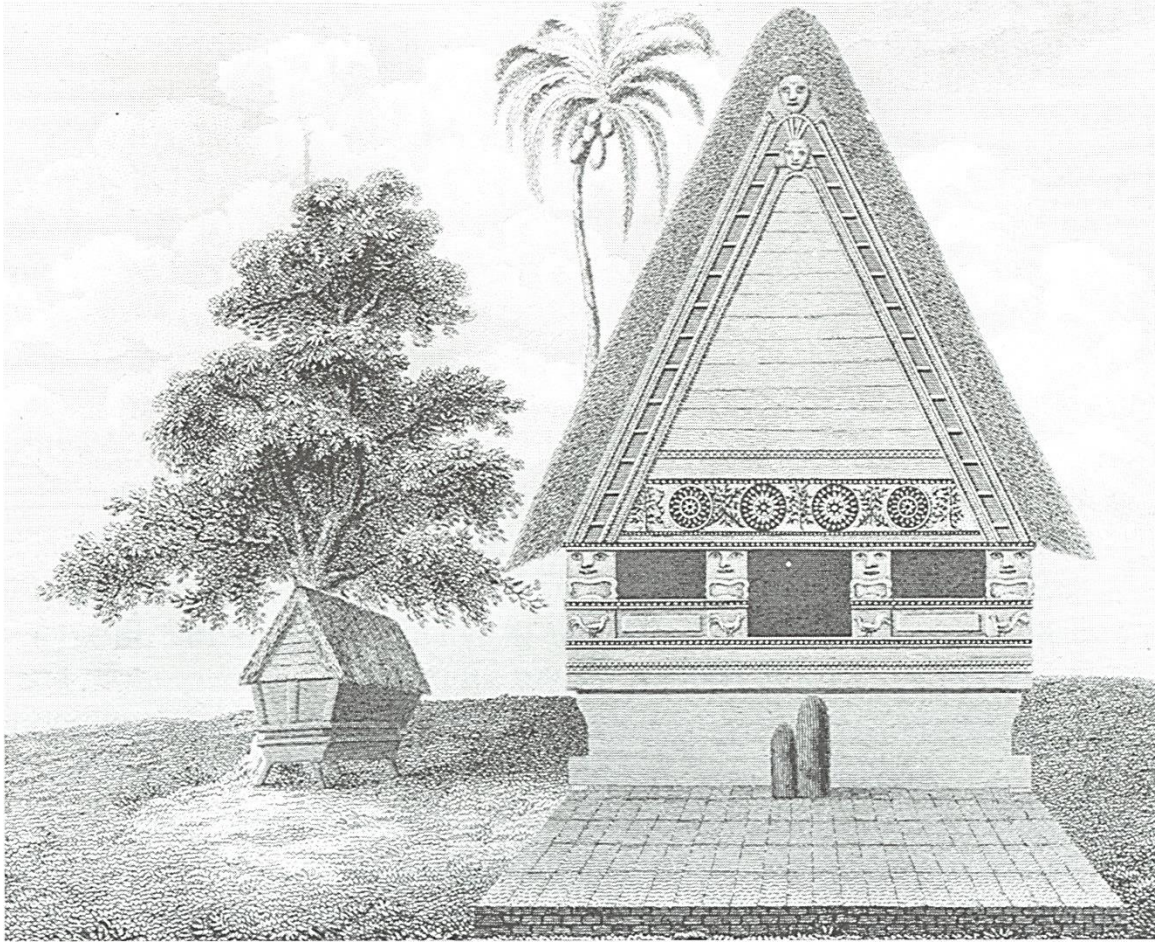


Figure 7: 'The End View of the Pye A Ra Muckitee'  
 engraving by R. Reeve. From Hockin, *Supplement to An Account of the Pelew Islands* (London, 1803). From George Keate, *An Account of the Pelew Island*, ed. Karen Nero and Nicholas Thomas (London: Leicester University Press, 2002), 288

John Hockin also writes, “the windows resembling portholes of a ship, six or eight exactly opposite each other”, and “the inside of this house was most curiously worked and ornamented with various flowers and figures.”<sup>70</sup> Although no mention of these details were made by George Keate, it is evident from the water color by Arthur Devis, a passenger on the *Antelope*, that the elaborate decorations of the new bai were no innovation.

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<sup>70</sup> Hockin, "A Supplement to The Account of the Pelew Islands," 289

Various written descriptions and images do not coincide. Presumably, John Hockin's porthole type windows were small, but the images by both Arthur Devis and R. Reeve depict sizable openings. Presumably the six or eight windows exactly opposite each other are not the full height openings, but the small openings above the wall. The side view of "Pye A Ra Muckitee" depicts eleven windows.

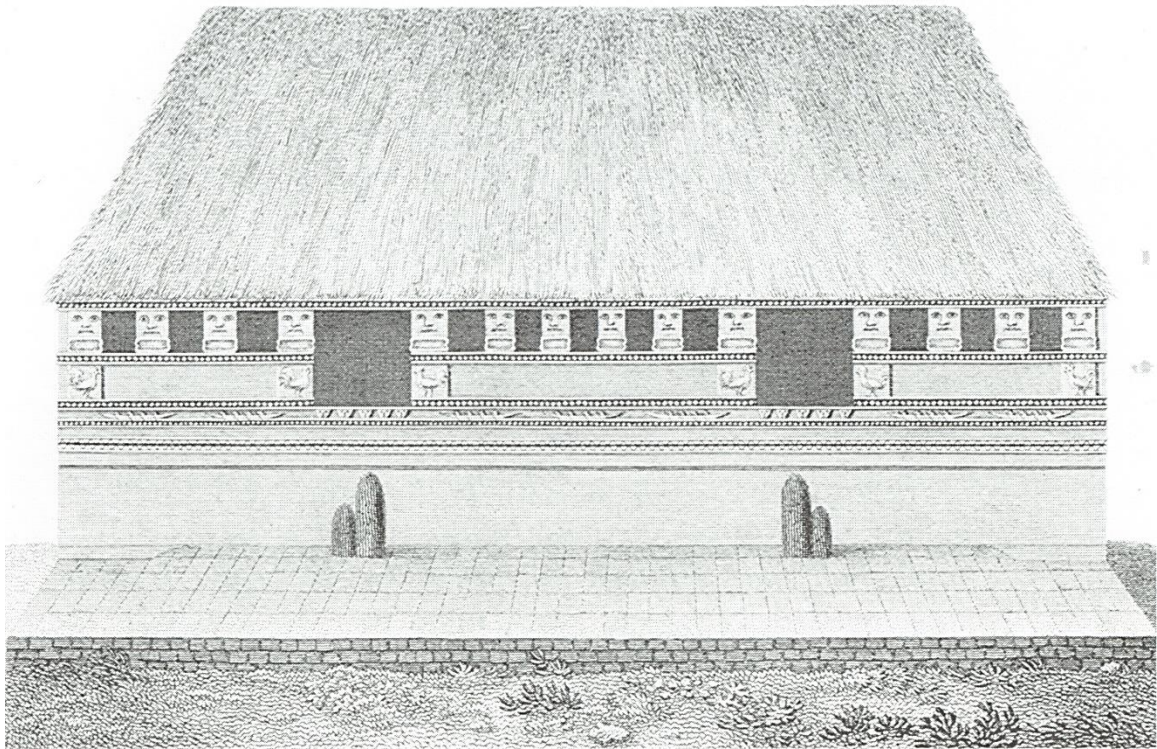


Figure 8: 'The Side View of the Pye A Ra Muckitee'  
engraving by R. Reeve. From Hockin, *Supplement to An Account of the Pelew Islands* (London, 1803). From George Keate, *An Account of the Pelew Island*, ed. Karen Nero and Nicholas Thomas (London: Leicester University Press, 2002), 288

When R. Reeve's elevations of the bai are examined closely, other errors of interpretation may be found. His end elevation depicts a gable roof, while his side elevation portrays a type of hip roof. The scale and proportions of the building are problematic. When the two elevations are aligned, matching the floor level and the height of the walls, the roof ridge lines do not match. The length of the building appears to be only twice the width of the bai; approximately forty feet and the window openings are disproportionate.



The ornamentation on the side view exterior is consistent with traditional carving and painting, but the circular motifs are unusual.

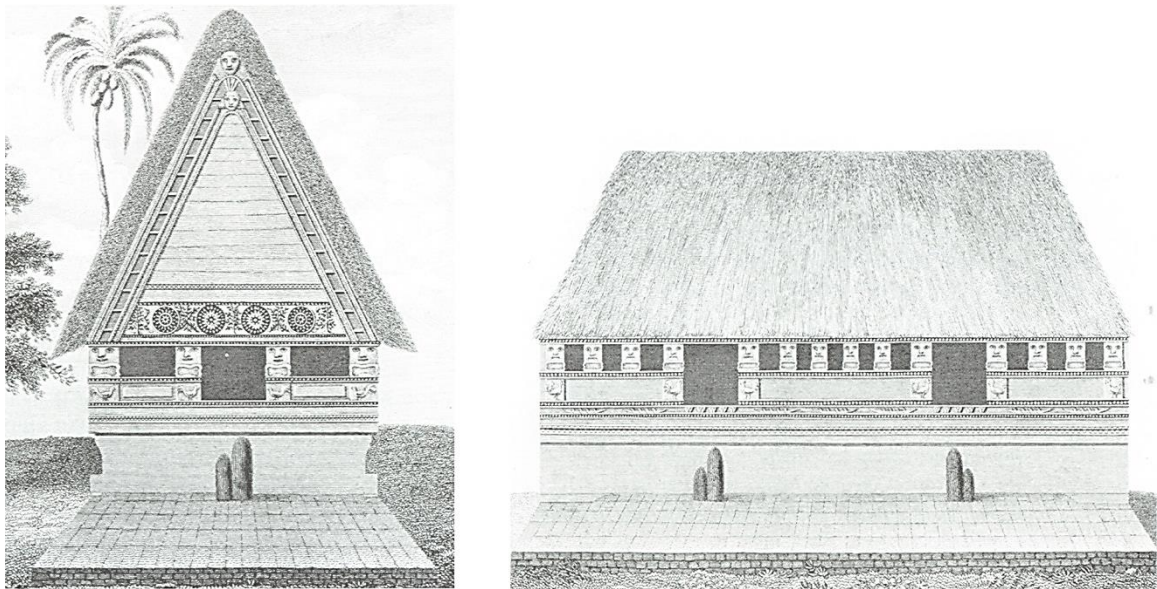


Figure 9: Comparison of 'The End View of the Pye A Ra Muckitee' and 'The Side View of the Pye A Ra Muckitee' engraving by R. Reeve. From Hockin, *Supplement to An Account of the Pelew Islands* (London, 1803). From George Keate, *An Account of the Pelew Island*, ed. Karen Nero and Nicholas Thomas (London: Leicester University Press, 2002), 288

## Karl Semper

Karl Semper describes the family dwellings, used by the women and young children at night, as “rectangular from twenty-five to forty feet long and twelve to fourteen feet wide; there was no division of any kind inside.”<sup>71</sup> The gable roof was pitched from four feet high walls, with full height openings for doors and windows. The floors were split bamboo approximately six inches above the ground, with built-in fireplaces.

When Karl Semper became aware that repairs to Captain Edward Woodin’s leaky ship, the *Lady Leigh*, could take many months, he had a house built for himself.<sup>72</sup> “Naturally, the house was built in the

<sup>71</sup> Karl Semper, *The Palau Islands in the Pacific Ocean*, trans. Mark Berg (Guam: Micronesia Area Research Center, 1982), 40

<sup>72</sup> Semper, *The Palau Islands in the Pacific Ocean*, 41

simplest mode.”<sup>73</sup> It had a central reception room flanked by his bedroom on one side and his study on the other. “Strong posts firmly embedded in the ground stood only in the corners of the rooms.”<sup>74</sup> The roof “was the customary plaited pandanus leaves and formed a gable above the seven-foot walls, several of which had windows with covers mounted.”<sup>75</sup> The walls and rooms of the house were woven of split bamboo. The floor was three feet above the ground, and was bamboo mesh reinforced by small supports. The kitchen/cook house was a separate small hut.<sup>76</sup> Karl Semper’s house was named *Tabatteldil*. He was no longer addressed “Doctor” but as “*Era Tabatteldil*”.<sup>77</sup>

Although other buildings in Aibukit (Ngbuked) are not described, Karl Semper was impressed with the buildings in Koror. He comments on “a massive many-colored clubhouse rose with artistic beauty against the blue background of sky and the green foreground of trees.”<sup>78</sup> The clubhouse was on a “large rectangularly paved, open square on which a few coconut trees raised themselves in an artistic way.”<sup>79</sup>

In the houses he saw “a number of chests and large cooking pots, all kinds of European utensils, knives and forks in profusion, and even porcelain plates.”<sup>80</sup> He commented that, “The influence that the busy trade with the trading people from the West had worked upon the life of the villagers was easily recognizable.”<sup>81</sup> However, he made no comments about any changes to traditional building material or construction techniques, but described the harbor at Koror, “which was protected from the waves by a large stone wall jutting far out into the ocean.”

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<sup>73</sup> Semper, *The Palau Islands in the Pacific Ocean*, 40

<sup>74</sup> Semper, *The Palau Islands in the Pacific Ocean*, 40

<sup>75</sup> Semper, *The Palau Islands in the Pacific Ocean*, 40

<sup>76</sup> Semper, *The Palau Islands in the Pacific Ocean*, 40

<sup>77</sup> Semper, *The Palau Islands in the Pacific Ocean*, 40

<sup>78</sup> Semper, *The Palau Islands in the Pacific Ocean*, 181

<sup>79</sup> Semper, *The Palau Islands in the Pacific Ocean*, 124

<sup>80</sup> Semper, *The Palau Islands in the Pacific Ocean*, 184

<sup>81</sup> Semper, *The Palau Islands in the Pacific Ocean*, 182

While traveling from Koror to Peleliu, Karl Semper saw “a beautiful bay opening to the ocean in the east, ...and high up on its summit a European house.”<sup>82</sup> It was Andrew Cheyne’s house on Malakal which he describes as being “built in the Tagalog-Christian style of Manila.”<sup>83</sup>

### Spanish Mission

It was accepted European practice that the first country to raise its flag in a new land had legal claim of the territory. The Spanish decided to formalize their claim to Palau as their territory, although Ibedul had already petitioned Britain to make Palau part of its empire. A Papal decree in 1885 granted sovereignty to Spain and commercial rights to Germany and Britain.

When the Spanish Capuchins arrived in April 1891 to settle in Palau, the first house they completed for themselves was “a sturdy little building made of planks and bamboo, open to the breezes and so windy at times that the kerosene lamp could not be kept lit”<sup>84</sup>. It was built to accommodate two priests and two brothers with a chapel incorporated into one end of the building.<sup>85</sup> Assuming the image below is that same house, it had a shallow pitch corrugated metal hip roof with narrow overhangs.

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<sup>82</sup> Semper, *The Palau Islands in the Pacific Ocean*, 205

<sup>83</sup> Semper, *The Palau Islands in the Pacific Ocean*, 205

<sup>84</sup> Francis Hezel, *The Catholic Church in Micronesia: Historical Essays on the Catholic Church in the Caroline-Marshall Islands* (Chicago: Loyola University Press, 1991), 197

<sup>85</sup> Hezel, *The Catholic Church in Micronesia*, 196 - 197

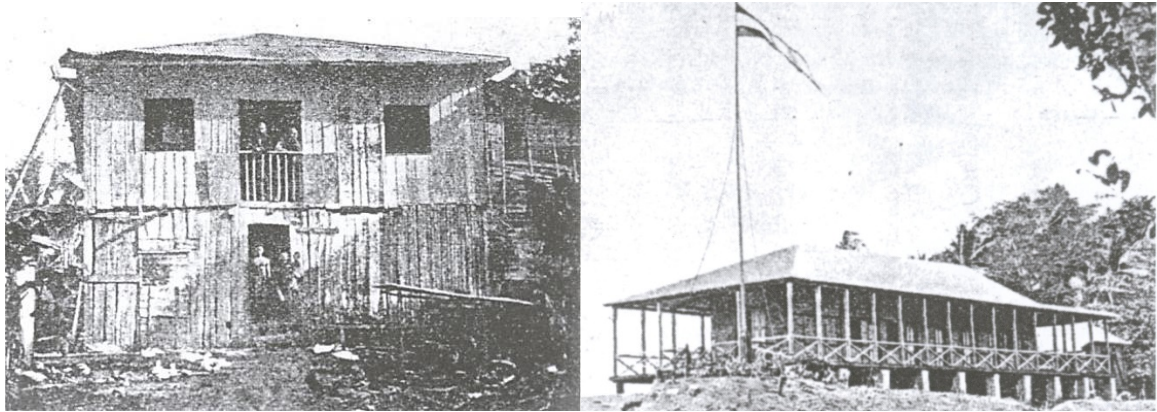


Figure 10: The old Capuchin residence in Koror  
from Francis Hezel, *The Catholic Church in Micronesia: Historical Essays on the Catholic Church in the Caroline-Marshall Islands* (Chicago: Loyola University Press, 1991), 200  
as originally published in na. *Aus den Missionen* 1909, 11

Figure 11: Koror residence, built by Capuchins in 1907  
from Francis Hezel, *The Catholic Church in Micronesia: Historical Essays on the Catholic Church in the Caroline-Marshall Islands* (Chicago: Loyola University Press, 1991), 207  
as originally published in na. *Aus den Missionen* 1909, 56

In April 1893, the Capuchins established a mission station in Ngarchelong; a residence and a chapel dedicated to St Joseph. The residence that the Palauans built for Fr. de Granada was of *titimel* wood, a material that decomposes rapidly. Their objective was that he would leave Ngarchelong when his house disintegrated. However, the tin sheet roofing that was installed “protected the *titimel* from the moisture and prevented it from decaying.”<sup>86</sup>

#### German Era (1898 – 1914)

In 1901 the German government estimated the population at 3,748. In his survey of the Palau Islands (including Babeldaob, Goreor, Peliliu and Angaur), Augustin Kramer found 84 inhabited villages and 151 deserted villages. He estimated that there were approximately 4,000 inhabitants by finding the approximate number of inhabitants of the 84 villages.<sup>87</sup>

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<sup>86</sup> Hezel, *The Catholic Church in Micronesia*,

<sup>87</sup> Tadao Yanaihara, *Pacific Islands Under Japanese Mandate* (London: Oxford University Press, 1940), 42

"In 1905, a German police officer was sent with a small detachment of troops. German influence on Palauan lifestyle grew rapidly after this."<sup>88</sup>



Figure 12: German Government building (circa 1908 )  
from Micronesian Seminar Collection, The German Era (Georg Fritz Collection, MARC), Photo 13  
<http://www.micsem.org/photos/german/13.htm> (accessed December 15, 2012)

Augustine Kramer's ethnographical study in 1908 - 1910 correlates closely to the descriptions and sketches of Palauan villages by early visitors to Palau. Drawings from Kramer's volumes of village layouts illustrate highly organized communities and formalized village layouts. The coastal villages had elevated rock causeways extending far into the lagoon. The other end of the causeway developed into an elevated stone pathway leading into to the village. The pathways were constructed with a more regular surface down the center and less regular smaller stone to the perimeter. Keate described the pathways leading to Koror

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<sup>88</sup> Micronesian Seminar Collection, The German Era, Photo 13,  
<http://www.micsem.org/photos/german/13.htm>, accessed December 15, 2012

as being two feet above the adjacent ground level, ten wide and lined with trees on both sides.<sup>89</sup> The pathway terminated at a raised stone platform adjacent the bai.

Along the pathways leading to the bai were the blai, houses where the women and children stayed and slept. The basic unit of the social structure was the single, ancestral, biological kin group composed of a mother and her children. The wet taro fields were located in the lowlands adjacent the village. They were the responsibility of the women.

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<sup>89</sup> Keate, *An Account of the Pelew Islands*, 122



## Goreor Village (Koror): 1908 – 1910



Figure 13: Map of Koror – Plan 26a  
 from Augustin Krämer *Ergebnisse der Südsee-Expedition 1908 – 1910*  
 II. Ethnographie: B. Mikronesien Band 3  
 2. Teilband: Abteilung II: Siedelungen, Bezirke, Dörfer, Verfassung  
 (Hamburg: L. Friederichsen & Co., 1919), 205

Augustin Kramer records the native population of Koror in 1911 as seven hundred and nine inhabitants. He describes Koror village as situated on Koror Island's thirty three feet (ten meters) high and thirteen hundred feet (four hundred meters) wide central isthmus.<sup>90</sup> His map of Koror village shows several distinctive features in the landscape; the ocean, the reef, the lagoon, the mangrove forests and the land. There were several distinctive manmade elements in the landscape; the causeway, the jetties and channels, the pathways, the buildings and taro fields.

<sup>90</sup> F Buck and S Elbert, *Results of the South Sea Expedition 1908 – 1910*  
 (Translation of Kramer, District Intelligence Office, 14 ND, 1942), 109

Ngarekamais Brücke was the causeway almost exactly thirteen hundred feet (four hundred meters) long extending across the lagoon from the surrounding reef and deep water.<sup>91</sup> Turtle ponds were located at the land end of the causeway. A bridge linked the turtle ponds to a jetty and path way adjacent a small islet in the mangrove forest. The stone jetty skirted the mangrove forest and ran along the more than thirty three feet (ten meters) wide and four hundred feet (one hundred and twenty meters) long channel through the mangrove forest.

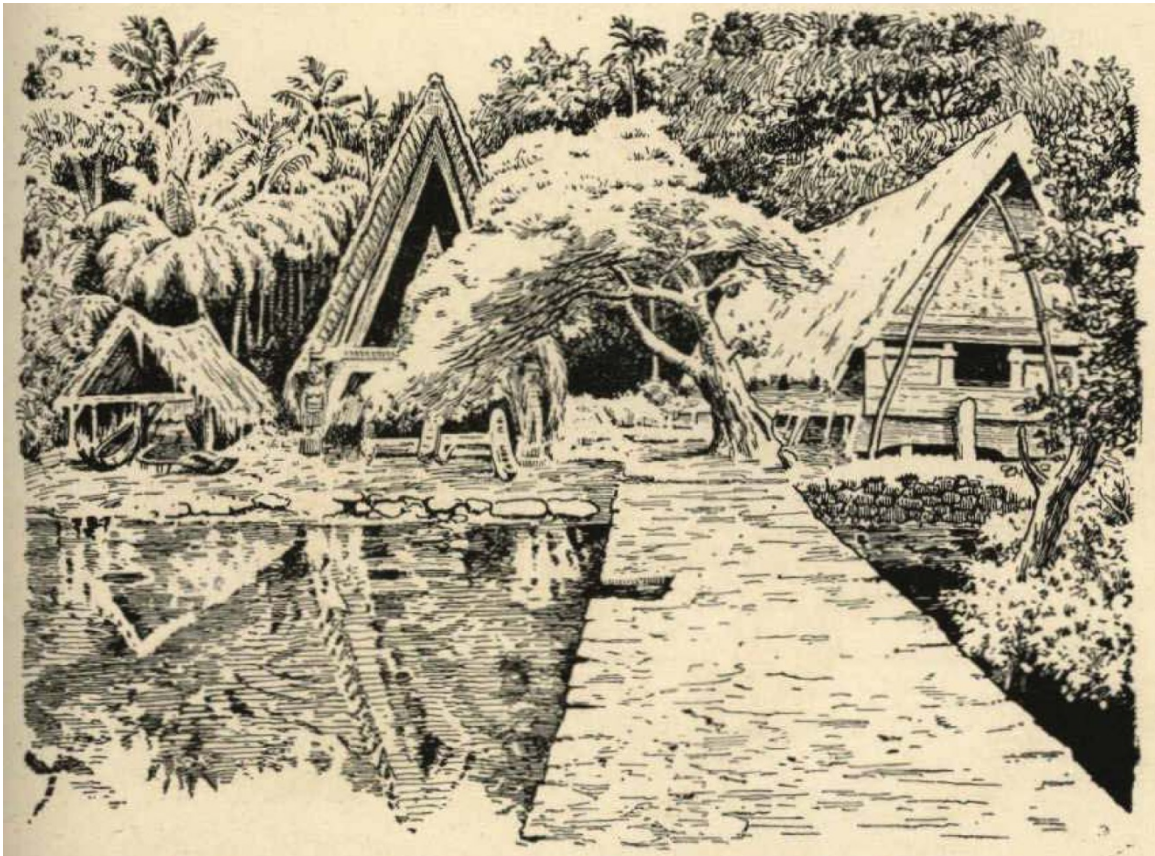


Figure 14: Jetty, boathouse and bai at Koror  
Figure 43, from Augustin Krämer *Ergebnisse der Südsee-Expedition 1908 – 1910*  
*II. Ethnographie: B. Mikronesien Band 3*  
*2. Teilband: Abteilung II: Siedelungen, Bezirke, Dörfer, Verfassung*  
(Hamburg: L. Friederichsen & Co., 1919), 207

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<sup>91</sup> Buck and Elbert, *Results of the South Sea Expedition*, 110





Figure 15: Comparison of 'View of the Causeway or landing place at Pelew' (Fig 5) & Jetty, boathouse and bai at Koror (Fig 14) from George Keate, *An Account of the Pelew Island* & Augustin Krämer *Ergebnisse der Südsee-Expedition 1908 – 1910*

From the jetty a stone path ran up the slope to a ridge stone pathway and another ran along the shoreline to nearby channels and jetties, and terminated at taro fields. The ridge stone path which was lined with large shade trees ran approximately parallel to the coast line through the village for approximately a mile (one and a half kilometers). Bai and blai were scattered at seemingly random intervals along the village path way. Kramer commented that "Whereas the government road is constructed as in our country with dirt and light stone reinforcements, the village street consists of a stone superstructure about 4 meters wide and 40 centimeters high." <sup>92</sup> (thirteen feet wide and sixteen inches high)

Kramer's map shows various adjacent hamlets of Koror village: a Jebukul (Iyebukel), Ngarekesauaol (Ngerkeseauol), Ngaregamai (Ngerchemai) and Goreor (Koror). Each of these hamlets had a similar layout; a stone pathway commencing at the water's edge, running through the hamlet and connecting to the pathway running to Koror. Bai and blai were scattered at seemingly random intervals along the village path way.

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<sup>92</sup> Buck and Elbert, *Results of the South Sea Expedition*, 109

Goreor originally had nine bai (bai A – I), but Bai F Miskabasang from the village was relocated to the German Government Station by the station leader.<sup>93</sup> All the bai were located on stone platforms adjacent the pathways, except for *Bai Ikieu* (bai I) which was located at the end of the jetty. The three adjacent central bai, *Gosobulngau*, *Bilekelek* and *Ngarmidlbai*, at Goreor (Koror) were situated on the ridge line at an elevation of approximately thirty three feet (ten meters). The ridge top bai were orientated along the stone path along the ridge line, on a north easterly axis. The shorefront bai were aligned to the stone paths and jetties, and were therefore oriented on a northwesterly axis.

Each of the channels with a jetty on the north westerly shore of Goreor (Koror) had a boat house oriented parallel to the jetty and stone path.

The houses in Goreor (Koror) were aligned with the stone pathway, and were therefore oriented on a north easterly axis. Augustin Krämer wrote, “Actually all the old blai of the village point with their front side towards the richer north, which is considered an old tradition.”<sup>94</sup> He commented that fortunately the Idedul's secular two-story the only one in the village.<sup>95</sup> Some of the houses had stone pavement to the north west, and their cook house to the west. The houses had defined land associated with them, but it is unknown whether the boundaries indicated on the map were demarcated by any particular system. Taro fields were located at lower elevations adjacent the mangrove forests.

A Jebukul (Iyebukel) had two bai on stone platforms adjacent the pathways. The bai at the higher elevation was oriented with its longitudinal axis north. The shore-front bai was oriented perpendicular to the stone pathway, and with its longitudinal axis along the shore. Most of the houses in a Jebukul (Iyebukel) were aligned with the stone pathway, and were therefore oriented on an almost northerly axis.

Ngarekesauaol (Ngerkeseauol) had one bai on a stone platform adjacent the stone pathway. The height of the bai matched the contour of the ridge bai in Goreor (Koror). Ngarekesauaol (Ngerkeseauol) had a boat

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<sup>93</sup> Buck and Elbert, *Results of the South Sea Expedition*, 107

<sup>94</sup> Augustin Krämer, *Results of the South Pacific Expedition 1908 - 1910: II. Ethnography: B. Micronesia Volume 3: Palau 2. Part of the Volume*, trans. Carmen Petrosian-Husa (Bureau of Arts and Culture, 2002), 213

<sup>95</sup> Krämer, *Results of the South Pacific Expedition*, 213

house adjacent the pathway at the water's edge, with a short channel through the mangroves into the lagoon. The houses for the hamlet appear to be randomly located adjacent the stone pathway. The upper end of the stone path way had a platform for the rubak. This was likely a rectangular platform with strategically placed rocks at each corner, each at a slightly different height to denote the ranking of the rubak.

Ngaregamai (Ngerchemai) had two bai on stone platforms adjacent the pathway. The longitudinal axes of the bai were oriented perpendicular to the stone pathway. The path way extended into a jetty through the mangroves into the lagoon. Ngaregamai (Ngerchemai) had a boat house on the shore above the mangrove. The house for the hamlet were located on the less sloping land adjacent the bai and pathway. At the upper end of the stone path way had a platform for the rubak.

#### Goreor Station (Koror): 1908 – 1910

Although Augustin and Elisabeth Kramer had been informed on their previous visit that a livable meeting house would be available for them, on their return to Palau in April 1908, they commandeered the German Stationmaster's house.<sup>96</sup> The German Station in Madalai (now Madalaii) was a 15 minute walk along the government road from Koror village.<sup>97</sup> Unfortunately Kramer does not appear to have documented the German Station settlement at Madelai or the settlements on Malakal.

The actual size and population of the German Station is unknown; there was a bai (relocated from Koror village), police station and jetty. "Beyond, on the southern edge of the northern fringing reef, is the head of the long stone causeway, which the German government ordered built, and by which you can always go dry shod to the Madalai police station. It is on the western point of the island"<sup>98</sup>

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<sup>96</sup> Arthur Knoll and Hermann Hiery, ed. *The German Colonial Experience: Selected Documents on German Rule in Africa, China, and the Pacific 1884 - 1914*. (Maryland: University Press of America, Inc, 2010), 258

<sup>97</sup> Buck and Elbert, *Results of the South Sea Expedition*, 107

<sup>98</sup> Buck and Elbert, *Results of the South Sea Expedition*, 106



Figure 16: View from Station manager's House on Madalai (Goreor)  
 Panel 9 translation of Blick vom Haus des Stationsleiters in Madalai (Goreor) nach S. W. Tafel 9.  
 from Augustin Kramer, *Ergebnisse der Südsee-Expedition 1908 – 1910*  
*II. Ethnographie: B. Mikronesien Band 3,*  
*1. Teilband: Abteilung I: Entdeckungsgeschichte und II Geographie*  
 (Hamburg, L. Friederichsen & Co., 1917), ?

Malakal Island was the preferred harbor for Koror. "Cheyne, Tetens, and Kubary as well as other traders selected this place as a residence because of its security..."<sup>99</sup> There were Japanese settlements on Malakal in 1910.

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<sup>99</sup> Buck and Elbert, *Results of the South Sea Expedition*, 109

## Irai Village (Airai): 1908 – 1910

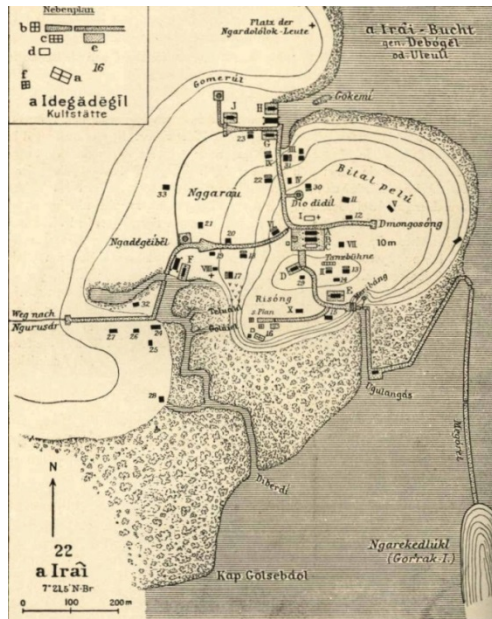


Figure 17: Map of Airai  
 plan 22 from Augustin Krämer *Ergebnisse der Südsee-Expedition 1908 – 1910*  
 II. Ethnographie: B. Mikronesien Band 3  
 2. Teilband. Abteilung II: Siedlungen, Bezirke, Dörfer, Verfassung  
 (Hamburg: L. Friederichsen & Co., 1919), 182

Augustin Kramer records the native population of Airai in 1911 as three hundred and ninety six inhabitants.<sup>100</sup> Similar to Koror, his map of Airai village shows distinctive features in the landscape; the ocean, the lagoon, the land and the mangrove forests. The distinctive man-made elements in the landscape were; the causeway, the pathways, the buildings and the taro fields.

The village was situated on a round isthmus about thirteen hundred feet (four hundred meters) in diameter and three hundred and thirty feet (one hundred meters) high, with Bitalpelu to the east and Nggarau to the west. It was accessed from by channels through the mangroves; the southern channels Ugulangas and Diberdi and the northern channel Gokemi.

<sup>100</sup> Kramer, *Ergebnisse der Südsee*, 85 Translated on Google Translate

Megorei was a seventeen hundred feet (five hundred and twenty meter) long stone causeway connecting the mainland to Ngarekedlukl island. It ran from the fisherman's house stone platform approximately six hundred and fifty feet (two hundred meters) north east along the mangroves before turning south to the island. There were two penetrations through the causeway for boat access, a forty feet (twelve meters) wide gap near the bend and the other half way to the island. Kramer commented that this causeway construction was worthy of admiration.<sup>101</sup> The causeway continued alongside channel Ugulangas, from the fisherman's house and terminated at a stone bridge and stone stairway leading to Bai E.

Channel Diberdi was approximately seventeen hundred feet (five hundred meters) long and terminated at the boat house and bai F.

Gokemi channel was less than three hundred and thirty feet (one hundred meters) long, and terminated at the boat house and several bai. A pathway led from the landing place past several houses to stone platform and three bai at the center of the village: *Gosobulngau*, *Ngardubog* and *Goutang*. Although the roof of the two storey *Goutang* had collapsed in 1907 Augustin Kramer recorded the remaining walls. Augustin Kramer mentions modern houses off the pathway; presumably these were European style houses constructed using European construction methods.

On the southern end of the isthmus was secluded wooded area for spiritual devotion related to the god Medegeipelau. Augustin Kramer comments on the dilapidation of the area after the last priest had died.

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<sup>101</sup> Kramer, *Ergebnisse der Sudsee*, 85 Translated on Google Translate



This topographic map depicts the Melekeiok region, centered around the Ngerupesang and Ngerulangi rivers. The map includes the following features:

- Settlements:** Melekeiok, Ngerames, Ngerulangi, and Gomis are the primary locations shown. Other smaller settlements include Ngerupesang, Ngerulangi, and Ngerames.
- Geographical Features:** The Ngerupesang and Ngerulangi rivers are prominent. The map also shows the Ngerupesang and Ngerulangi rivers, the Ngerupesang and Ngerulangi rivers, and the Ngerupesang and Ngerulangi rivers.
- Topography:** Contour lines indicate elevation, with markers for 50m and 100m. The terrain is characterized by steep slopes and valleys.
- Infrastructure:** A network of roads and trails is shown, connecting the various settlements and providing access to the interior.
- Legend and Scale:** A scale bar at the top right indicates distances of 0, 100, and 200 meters. A north arrow is also present.

Augustin Kramer records the native population of Melekeok in 1911 as seven hundred and eighty nine inhabitants.<sup>102</sup> He was unable to accurately determine the latitude for Melekeok, but his approximation of it

48

to be 7° 30' North was correct.<sup>103</sup> Similar to Koror, his map of Melekeok village shows distinctive features in the landscape; the ocean, the reef, the lagoon, the land and the forests (Melekeok had no mangrove forests). The distinctive manmade elements in the landscape were; the causeway, the pathways, the buildings and taro fields.

Brucke Ngaragelug was the massive stone causeway extending from the beach across the lagoon to the surrounding reef. The cause way had two penetrations at one hundred and thirty feet (forty meters) and was eight hundred and eighty five feet (two hundred and seventy meters) long to the reef.<sup>104</sup> The reef break near the end of the causeway was called Guger inlet. A stone embankment and path way ran along the north side of the channel from the causeway to the beginning of the stone pathway and the head of the Gongiong stream. Adjacent the stone embankment was Bai Bialegasau where Kramer stayed while he was in Melekeok. Kramer mentions a cottage on the beach north of the bai where Kurbury stayed in 1883, and a sketch of the causeway shows it as a local type structure, but there is no indication of it on his map.<sup>105</sup>

“The village of Melekeiok included the hamlets of Melekeiong, Ngerames and Ngaremeleg. In a broader sense Ngeruliang and Ngebureg to the north, and Ngerupesang and Ngarevikl in the south also belonged to the community”.<sup>106</sup> Although Augustin Kramer mentions hamlets of Melekeiong, Ngebureg and Ngarevikl as associated with Melekeok, they are not indicated on his map of Melekeok. Ngaragelug, however, is not mentioned as a hamlet of Melekeok, but is shown on his map.

The Catholic mission was at Ngaragelug, on the hill north of Ngerupesang. The houses of the Spanish Capuchin mission were demolished and replaced in 1910 with buildings for the German missionaries.<sup>107</sup> On the seaward side of Ngaragelug was a stony beach with a boat landing and adjacent the channel a stone platform with a crossing over the channel to the stone embankment and path.

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<sup>103</sup> Kramer, *Ergebnisse der Sudsee-Expedition*, 87 Translated on Google Translate

<sup>104</sup> Kramer, *Ergebnisse der Sudsee-Expedition*, 87 Translated on Google Translate

<sup>105</sup> Kramer, *Ergebnisse der Sudsee-Expedition*, 87 Translated on Google Translate

<sup>106</sup> Kramer, *Ergebnisse der Sudsee-Expedition*, 87 Translated on Google Translate

<sup>107</sup> Kramer, *Ergebnisse der Sudsee-Expedition*, 87 Translated on Google Translate

Melekeok had eight bai. All the bai were located on stone platforms adjacent and parallel to the stone pathways. The three adjacent central bai, *Gosobulngau*, *Ngeruiliabai* and *Ngaremegaulbai*, at Melekeok were situated a high point in the landscape at an elevation of approximately one hundred and thirty feet (forty meters). The stone platform adjacent the bai was eight hundred square feet (seventy five meters square) and built from stones brought from Uluang, with important stones of Golekeiok and Milad partly buried in the earth. In 1907 a beautiful modern house was built close to these bai for the senior reklai. It was built on the site of the 1880 family blai.<sup>108</sup> Stone path ways radiated from the central area; three towards the coast and one inland along the ridge terminating at a thirty three feet (ten meter) wide stone platform for the rubak.<sup>109</sup> This was likely a rectangular platform with strategically placed rocks at each corner, each at a slightly different height to denote the ranking of the rubak.

Kramer denotes the slopes of the hill on which the central bai were located as being heath. Heaths generally occur on barren infertile land that is free-draining and low in plant nutrients. It would be interesting to discover if the heaths had previously been cultivated and stripped of their nutrients, or whether the location was selected for strategy and security from invaders during warfare.

Two of the stone pathways led to the taro fields at the lower elevations. One of the stone pathways crossed the taro field across to the isthmus adjacent Gomis hill. Kramer's plan shows large stone platforms adjacent the step face of Gomis hill. The promontory of Gomis was forested in pandanus and the adjacent Ngororak gorge between Gomis and Cape Gogiberames was an idyllic beach with coconut palms. The landward ridge between Melekeok and Ngeruliang was forested.

The houses in Melekeok were randomly located adjacent the stone pathways. Most of the houses had stone pavement on their longitudinal elevation, but only some were aligned with the stone pathways. There is no discernible pattern to the orientation of these houses.

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<sup>108</sup> Kramer, *Ergebnisse der Sudsee-Expedition*, 88 Translated on Google Translate

<sup>109</sup> Kramer, *Ergebnisse der Sudsee-Expedition*, 88 Translated on Google Translate

Melekeok had three boat houses, one at Ngerames and two at Ngaremeleg; one adjacent and parallel to the stone pathway and the other on the beach near where the water channeled through the sand.

Ngeruliang had one bai adjacent and parallel the stone pathway. It was at an elevation of approximately eighty two feet (twenty five meters). The houses in Ngeruliang were randomly located adjacent the stone pathway. Most of the houses had stone pavement on their longitudinal elevation. The beach end of the stone pathway ended at a stone platform for rubak in front of the boathouse. The upper end of the stone pathway ended at the ridge line of the forest.

Ngerupesang had three designated bai (A, C and E) and a house (B) and a stone platform designated D. Kramer's text does not elucidate whether house B and platform D were used as a bai. The houses in Ngerupesang were randomly located adjacent the stone pathway and track through the taro field. Most of the houses had stone pavement on their longitudinal elevation. It is probable that the houses in the taro field were constructed on stone platforms above the flood level of the taro field. The track through the taro field terminated at a stone walk way between the beach bai and the boat house.

Germans began phosphate mining operations in Angaur in 1908. Original residents of the island were confined to one small section of the island. The development included a railway, sawmill and repair shop, administration building, hospital, storehouses, an eating place, a building for social activities, thirty two residences for Europeans and eleven barracks.<sup>110</sup>

The phosphate was carried up conveyor belts for loading onto ships. Output increased until the company was producing over 100,000 tons a year by the late 1930s.



Figure 19: Phosphate mining plant, Angaur  
from Micronesian seminar Collection, *The Era of Big Business*, (National Diet Library, Tokyo), Photo 1  
[http://www.micsem.org/photos/big\\_bus/11.htm](http://www.micsem.org/photos/big_bus/11.htm) (accessed December 15, 2012)

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<sup>110</sup> Palau Community Action Agency, *A History of Palau Volume Two: Traders and Whalers, Spanish Administration, German Administration* (Koror: Palau Community Action Agency, 1976), 208

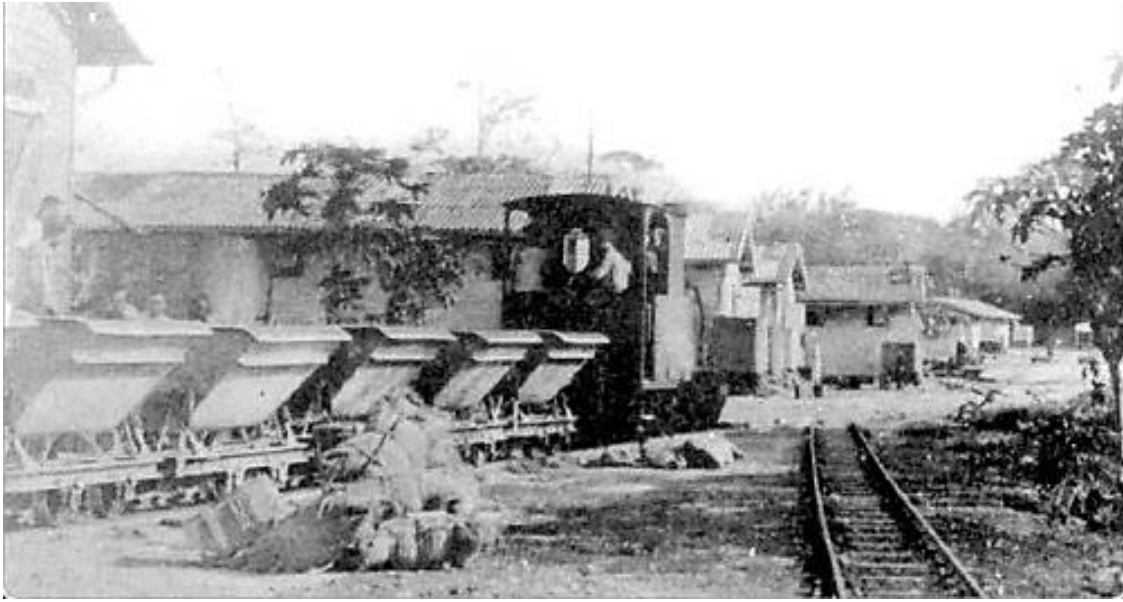


Figure 20: Phosphate train Angaur, workers dormitories beyond  
 from Micronesian seminar Collection, The Era of Big Business, (Yoji Yamaguchi Collection), Photo 13  
[http://www.micsem.org/photos/big\\_bus/13.htm](http://www.micsem.org/photos/big_bus/13.htm) (accessed December 15, 2012)

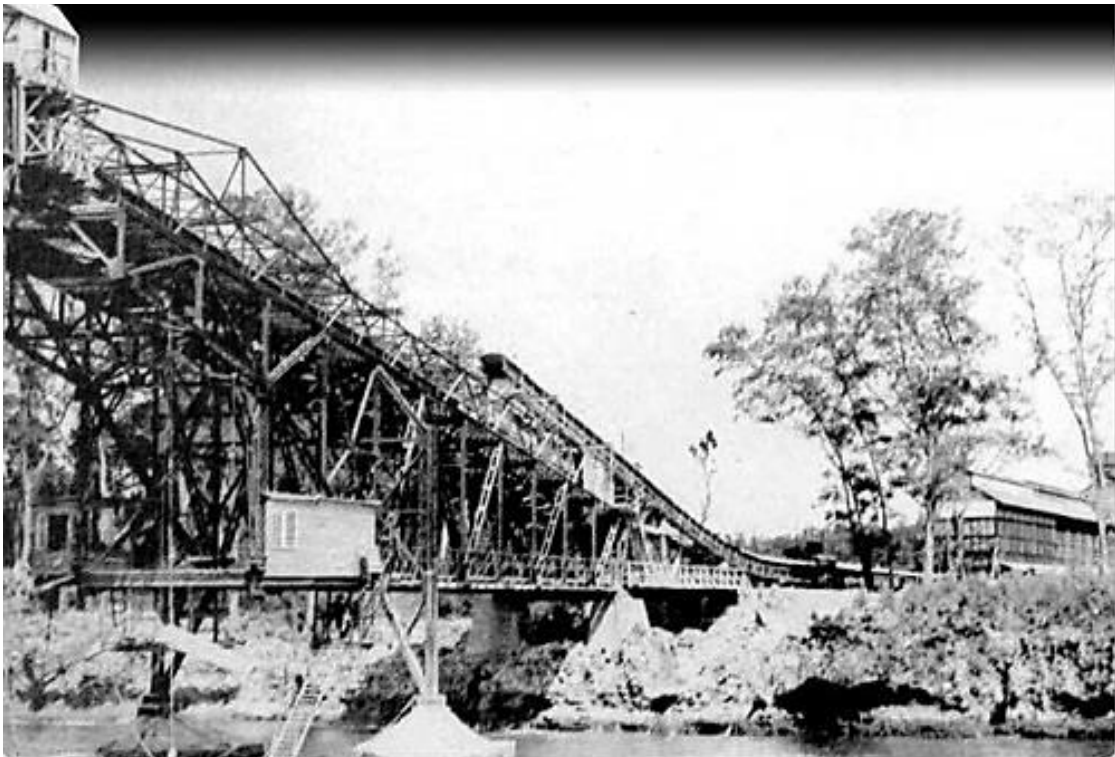


Figure 21: Phosphate conveyor belt for loading ships  
 from Micronesian seminar Collection, The Era of Big Business, (Yoji Yamaguchi Collection), Photo 16  
[http://www.micsem.org/photos/big\\_bus/16.htm](http://www.micsem.org/photos/big_bus/16.htm) (accessed December 15, 2012)



Figure 22: Pohnpeians exiled after the Sokehs Uprising building their own homes and settlement in Aimeliik 1911.  
 from Micronesian Seminar Collection, Island Hospitality(Georg Fritz ), Photo 03  
<http://www.micsem.org/photos/hospitality/03.htm> (accessed December 15, 2012)

### Japanese Era (1914 – 1947)

“In 1914, Palau looked much as it did during most of the previous century.”<sup>111</sup> When Japan acquired Palau after the First World War, under the agreement signed by the League of Nations, it was required to promote the material and moral well-being and social progress of the Micronesian people. Japan intended to develop the islands economically and create a territory for Japanese nationals to colonize to relieve the population pressure in Japan. <sup>112</sup>

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<sup>111</sup> Micronesian Seminar Collection, The Japanese Flag Unfurled, Photo 12, accessed December 15, 2012  
[http://www.micsem.org/photos/jpn\\_flag/12](http://www.micsem.org/photos/jpn_flag/12).

<sup>112</sup> Yanaihara, *Pacific Islands Under Japanese Mandate*, 74

In 1920 ninety percent of Palau's population were native islanders. Palau had a population of 6,388: 5754 native islanders, 592 Japanese and 15 foreigners. By 1930 Palau's population had increased to 8101: 6009 native islanders, 2078 Japanese and 14 foreigners – seventy four percent of the population were native islanders. By 1935 less than half of the population were native islanders; the population had increased to 12,798: 6230 native islanders, 6553 Japanese and 15 foreigners – forty nine percent were native islanders. In 1937 Palau had a population of 16, 126: 6578 native islanders, 9530 Japanese and 18 foreigners – forty one percent of the population were native islanders.<sup>113</sup>

| Populations in Palau (1912–1943) |          |          |
|----------------------------------|----------|----------|
| Year                             | Japanese | Palauans |
| 1912                             | 73       | -        |
| 1920                             | 592      | 5,700    |
| 1922                             | 206      | 5,700    |
| 1925                             | 1,054    | -        |
| 1930                             | 2,078    | 5,794    |
| 1931                             | 2,489    | -        |
| 1932                             | 3,346    | -        |
| 1933                             | 3,940    | -        |
| 1934                             | 5,365    |          |
| 1935                             | 6,553    | 5,851    |
| 1937                             | 11,400   | -        |
| 1940                             | 23,700   | 7,000    |
| 1943                             | 27,500   | -        |

Figure 23: Populations in Palau, from Revolv "Japanese settlement in Palau," accessed April 2016  
<http://www.revolv.com/main/index.php?s=Japanese%20settlement%20in%20Palau&uid=1575>

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<sup>113</sup> Tadao Yanaihara, *Pacific Islands Under Japanese Mandate* (London: Oxford University Press, 1940), 30





Figure 24: Palauan workmen are finishing the roof of a kitchen attached to the new naval station.  
 from Micronesian Seminar Collection, The Japanese Flag Unfurled, Photo 8  
[http://www.micsem.org/photos/jpn\\_flag/08.htm](http://www.micsem.org/photos/jpn_flag/08.htm) (accessed December 15, 2012)



Figure 25: Malakal, circa 1912  
 from Micronesian Seminar Collection, The Japanese Flag Unfurled, Photo 11  
[http://www.micsem.org/photos/jpn\\_flag/11.htm](http://www.micsem.org/photos/jpn_flag/11.htm) (accessed December 15, 2012)



Figure 26: Palauan house, circa 1914  
from Micronesian Seminar Collection, The Japanese Flag Unfurled, Photo 12  
[http://www.micsem.org/photos/jpn\\_flag/12](http://www.micsem.org/photos/jpn_flag/12). (accessed December 15, 2012)

“On Palau it is a social obligation of the members of the community to render service to one another in building houses.”<sup>114</sup> “Men of Palau were acquainted with the art of house-building, and a family did not need to summon the assistance of another family in building a house, nor did a village need the assistance of another in putting up the club house. Yet, according to custom, the construction of a dwelling house for a family was entrusted to another family, and the construction of a club house was put in charge of the club of another village, so that money passed from one family to another and from one village to another.”<sup>115</sup>

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<sup>114</sup> Yanaihara, *Pacific Islands Under Japanese Mandate*, 74 - 75

<sup>115</sup> Yanaihara, *Pacific Islands Under Japanese Mandate*, 102

Initially the Japanese protected land owned by Palauans and prohibited the sale of land to non-Palauans, but declared that all unoccupied land or land that no one owned was government owned. However, by 1923 all land was divided into state or private land. State land included all traditional common (clan) land. To the Palauans, land was owned by clans and families. Individuals rarely owned land.

1920's



Figure 27: The South Seas Government Officials' residences at Medalaii in the early 1920  
Pacifika Renaissance Facebook  
(Nanyo Gunto Shashincho ('The South Sea Islands Photo album')" (1925) (<http://kindai.ndl.go.jp/info:ndljp/pid/1899639>).  
<https://www.facebook.com/PasifikaRenaissance/photos/a.636760743107763.1073741855.245778818872626/636761073107730/?type=3&theater>, accessed October 5, 2016



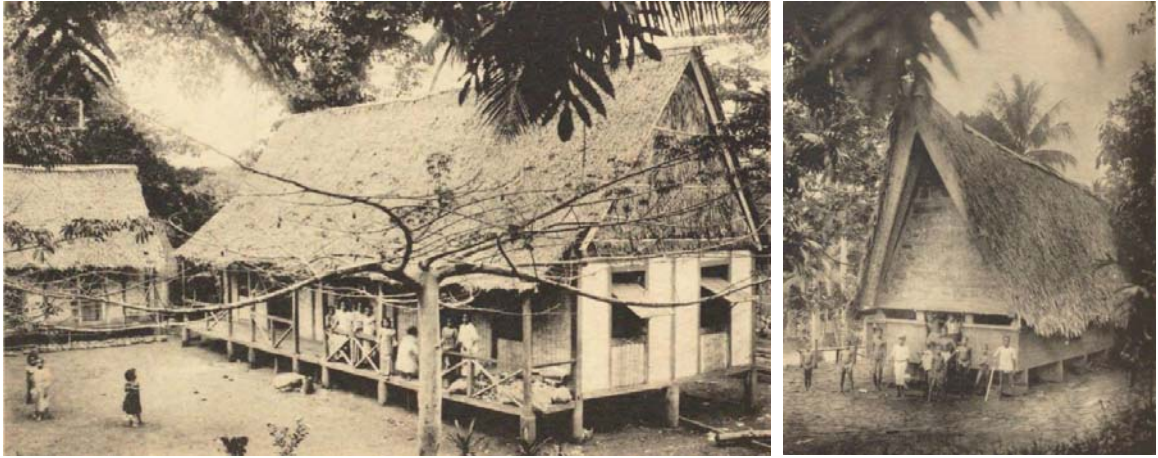


Figure 28: Female students' dormitory of Koror Elementary School for local students  
 Pacifika Renaissance Facebook  
 (Nanyo Gunto Shashincho ('The South Sea Islands Photo album')" (1925) (<http://kindai.ndl.go.jp/info:ndljp/pid/1899639>).  
<https://www.facebook.com/PasifikaRenaissance/photos/a.636760743107763.1073741855.245778818872626/636787876438383/?type=3&theater>, accessed October 5, 2016

Figure 29: Male students' dormitory of Koror Elementary School for Local Students  
 Pacifika Renaissance Facebook  
 (Nanyo Gunto Shashincho ('The South Sea Islands Photo album')" (1925) (<http://kindai.ndl.go.jp/info:ndljp/pid/1899639>).  
<https://www.facebook.com/PasifikaRenaissance/photos/a.636760743107763.1073741855.245778818872626/636787663105071/?type=3&theater>, accessed October 5, 2016

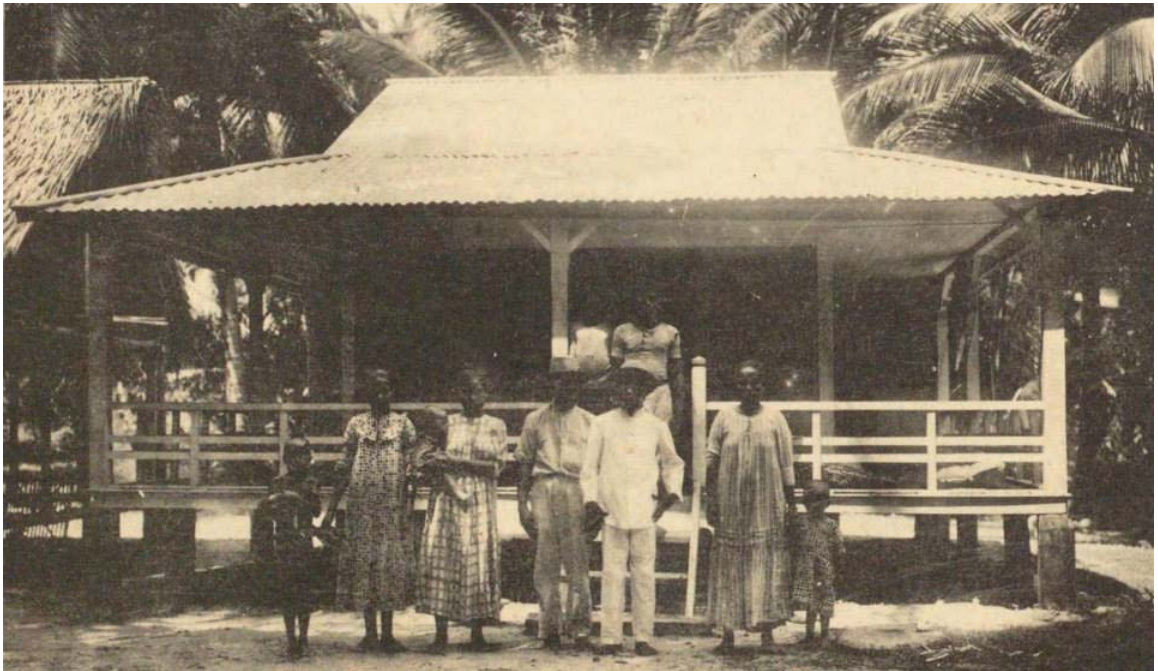


Figure 30: Reklai of Melekeok, early 1920  
 Pacifika Renaissance Facebook  
 (Nanyo Gunto Shashincho ('The South Sea Islands Photo album')" (1925) (<http://kindai.ndl.go.jp/info:ndljp/pid/1899639>).  
<https://www.facebook.com/PasifikaRenaissance/photos/a.647410125376158.1073741857.245778818872626/647411422042695/?type=3&theater>, accessed October 5, 2016



Figure 31: The South Sea Government Industrial Experimental Station office.  
 Pacifika Renaissance Facebook  
 (Nanyo Gunto Shashincho ("The South Sea Islands Photo album")" (1925) (<http://kindai.ndl.go.jp/info:ndljp/pid/1899639>).  
<https://www.facebook.com/PasifikaRenaissance/photos/a.636760743107763.1073741855.245778818872626/636761243107713/?type=3&theater>, accessed October 5, 2016

Urban centers were developed with large administrative centers and modern telecommunications. Koror became a metropolis with paved roads for vehicles and concrete buildings, many of which are still in use.<sup>116</sup>

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<sup>116</sup> Micronesian Seminar, Michiko Intoh Collection



Figure 32: Main road in front of the Japanese post office  
from Micronesian Seminar Collection, *The Japanese Flag Unfurled*, Photo 14  
[http://www.micsem.org/photos/jpn\\_flag/14](http://www.micsem.org/photos/jpn_flag/14) (accessed December 15, 2012)



1930's



Figure 33: Palauan house in Koror, circa 1935  
from Micronesian Seminar Collection, The Rise of Towns, Photo 19  
<http://www.micsem.org/photos/towns/19.htm> (accessed December 15, 2012)

The photograph above of the house occupied by a Palauan family has a corrugated metal roof and what appears to be corrugated metal panel walls.<sup>117</sup> The cement tank stored rainwater catchment from the house roof.

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<sup>117</sup> Micronesian Seminar Collection, The Rise of Towns, Photo 19  
<http://www.micsem.org/photos/towns/19.htm> (accessed December 15, 2012)



Figure 34: Koror's main road early 1930's  
 from Micronesian Seminar Collection, *The Japanese Flag Unfurled*, Photo 15  
[http://www.micsem.org/photos/jpn\\_flag/15](http://www.micsem.org/photos/jpn_flag/15) (accessed December 15, 2012)



Figure 35: Koror's main road late 1930's (the large two-story structure at the left is the Nanyo Boeki Kaisha building)  
 from Micronesian Seminar Collection, *The Japanese Flag Unfurled*, Photo 16  
[http://www.micsem.org/photos/jpn\\_flag/16](http://www.micsem.org/photos/jpn_flag/16) (accessed December 15, 2012)



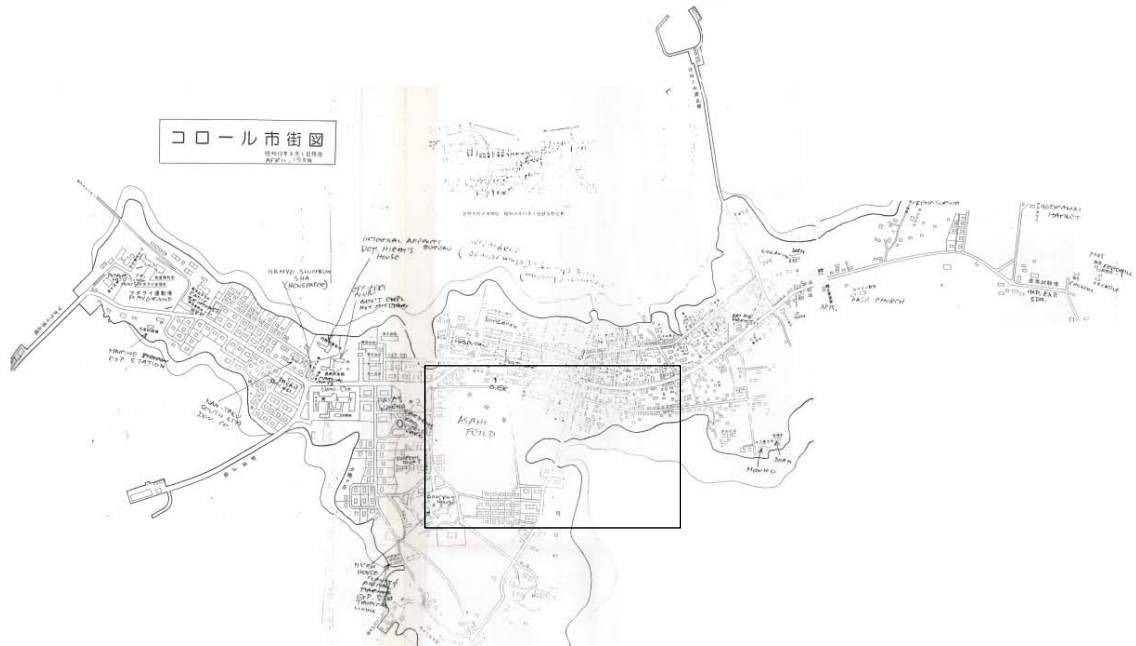


Figure 36: 1938 Japanese Map of Koror  
from *An Oral Historiography of the Japanese Administration in Palau*



Figure 37: Koror during the Japanese era  
Belau National Museum photo archive, accessed December 9, 2014  
<http://www.belaunationalmuseum.net/exhibits/indoor/japan/photoarchive.htm>

Tadao Yanaihara wrote, "The importation of foreign goods, however, has not affected the natives arts of house-building and canoe construction."<sup>118</sup> The demand by Palauans for housing materials was small because few could afford it. "The comparatively rich islanders use zinc sheets for roofing their houses and zinc tanks to catch rainwater"<sup>119</sup>

"The cottages in which the islanders dwell are very low, with a small entrance and in some cases a window or two. They appear unsanitary in the extreme, but the native does not think so. He sees only their virtues and is satisfied." The cottages were built to resist the typhoons. The small openings allowed little light inside, which kept the interior cool during the heat of the day and prevent the cold winds from blowing in at night. "Formerly the islander cared little about his private dwelling since most of his time was spent in the common meeting house of the village where all the menfolk of the community gathered."

Diseases that were previously unknown were prevalent. "Tuberculosis threatens most of the dwellers of the lightless and ill-ventilated thatch houses. All this makes it necessary that the dwelling houses undergo a change to answer the demands of sanitation as well as to suit the changed social conditions."<sup>120</sup>

For improved sanitary conditions an increase in medical facilities must be accompanied by efforts to improve the living conditions and customs of the islanders. The South Sea Government carried out village reconstruction enterprises through lecture meetings on sanitation, granting of subsidies for construction of water-tanks and encouraging the Palauans to build better dwelling houses for themselves. They set up model houses to be imitated. Practicality must be the aim in all reconstruction measures employed by the government, which means that the greatest consideration must be given to the question of preventing poverty and increasing the purchasing power of the islanders. Unless these two things are accomplished no tangible change in the life of the islanders is possible.<sup>121</sup>

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<sup>118</sup> Yanaihara, *Pacific Islands Under Japanese Mandate*, 149

<sup>119</sup> Yanaihara, *Pacific Islands Under Japanese Mandate*, 149

<sup>120</sup> Yanaihara, *Pacific Islands Under Japanese Mandate*, 248 - 249

<sup>121</sup> Yanaihara, *Pacific Islands Under Japanese Mandate*, 255

In the German period a few of the islanders built modern style houses for themselves. At present the number of those who are modelling their houses after the Japanese fashion is gradually increasing. But the improvement of dwellings implies a far greater expense than is necessary for clothing or food, and progress in this direction is bound to be much slower.<sup>122</sup>

Yanihara believed that improvements in clothing, food and housing was a requisite for the protection of the native population from further decline. He felt that the solution was to devise ways to raise the islanders' purchasing power.<sup>123</sup>

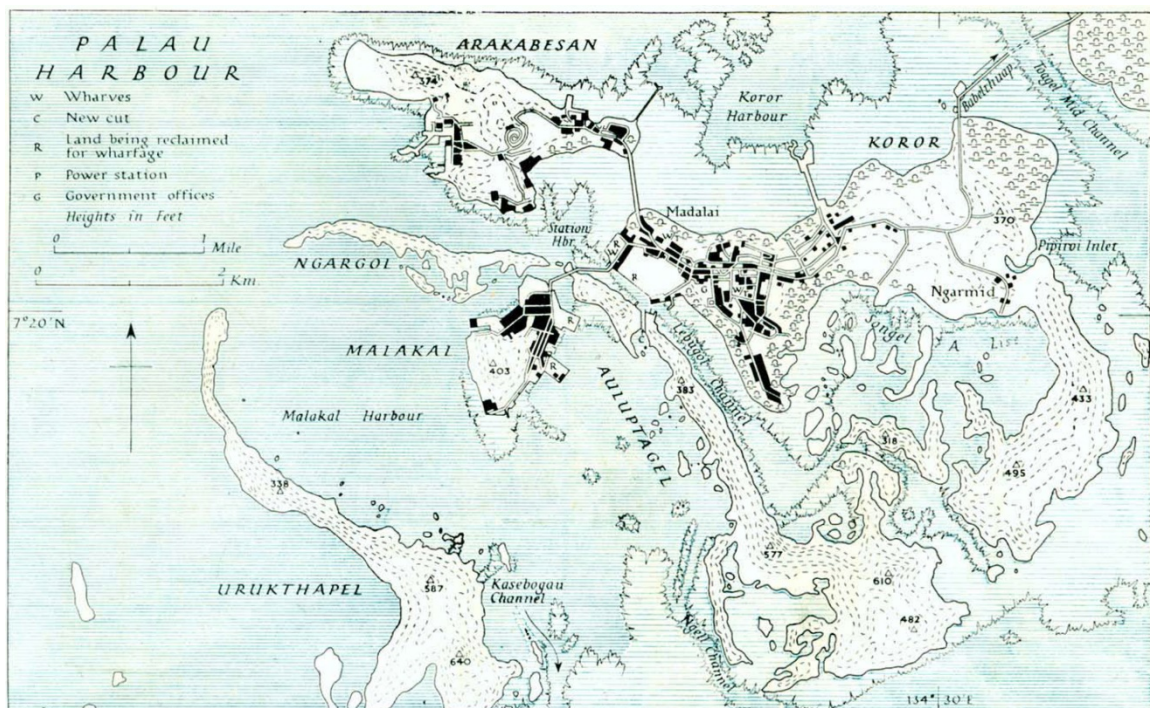


Figure 38: Palau harbor circa 1943, accessed December 9, 2014  
[http://images.nationmaster.com/images/motw/historical/pacific\\_islands\\_1943\\_1945/palau\\_harbour.jpg](http://images.nationmaster.com/images/motw/historical/pacific_islands_1943_1945/palau_harbour.jpg)

<sup>122</sup> Yanaihara, *Pacific Islands Under Japanese Mandate*, 291

<sup>123</sup> Yanaihara, *Pacific Islands Under Japanese Mandate*, 291 - 292





Figure 39: Palau Hospital (now Palau Community College administration office)  
from Belau National Museum photo archive, accessed December 9, 2014  
<http://www.belaunationalmuseum.net/exhibits/indoor/japan/photoarchive.htm>

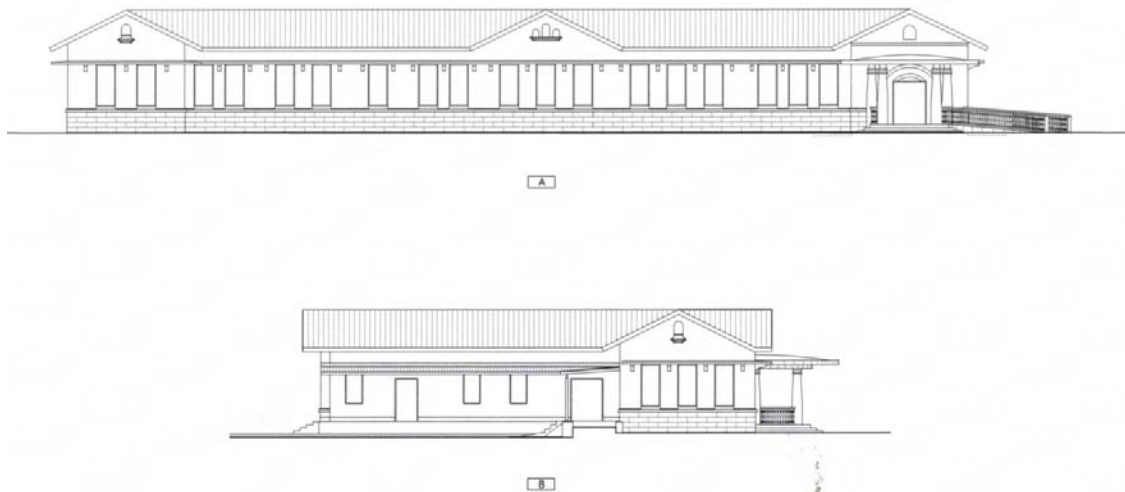


Figure 40: Palau Hospital (now Palau Community College administration office)  
from drawing ROP-K-KR-2 3/13 by Tsujihara Lab, *Drawings: Republic of Palau*, Kumamoto: Tsujihara Lab., Division of  
Human Habitat, Faculty of Environmental and Symbiotic Sciences, Prefectural University of Kumamoto, 2006



Figure 41: Bombing of Koror  
from Pacific Worlds, World War II  
<http://www.pacificworlds.com/palau/memories/images/bombing.jpg>, accessed October 10, 2016  
see also <https://www.youtube.com/watch?v=o9lJcq9ARKw>

1950's



Figure 42: Royal Palauan Hotel circa 1958  
from Micronesian Seminar Collection, The Tranquil 50's , Photo 20  
[http://micsem.org/photos/tranquil\\_50/21.htm](http://micsem.org/photos/tranquil_50/21.htm) (accessed December 15, 2012)



Figure 43: The main road in Koror in front of the post office circa 1959  
from Micronesian Seminar Collection, The Tranquil 50's , Photo 34  
[http://micsem.org/photos/tranquil\\_50/34.htm](http://micsem.org/photos/tranquil_50/34.htm) (accessed December 15, 2012)

## Contemporary Housing in Palau

This section is an overview of contemporary housing in Palau. As statistical data from the *2010 Census of Population and Housing of the Republic of Palau* is not yet available, the information in this research document is interpretations of the statistical data from the *2005 Census of Population and Housing of the Republic of Palau*. The census organized the housing characteristics into four main sections; general housing characteristics, structural characteristics, utilities and equipment. General housing characteristics included the total count of various unit types, tenure, vacancy characteristics and age. The structural characteristics included the number of housing units per structure, rooms per housing unit, and bedrooms per housing unit; materials used for the construction of roofs, outer walls, and foundations. The utilities included electricity, water, and sewer. Equipment included general plumbing; toilet, bathing and kitchen facilities.

General housing characteristics investigated in this research document include the tenure status of the housing unit occupants, the category of the housing unit, the types of building materials used in the construction of the housing unit, and the housing unit utilities. The general housing characteristics of all occupied housing units in Palau in its entirety will be scrutinized, and the general housing characteristics of occupied housing units in the states of Melekeok, Airai and Koror will be analyzed and evaluated. Studying the various aspects of housing may show relationships between traditional cultural systems and modernization, and provide insight for development.

For people not familiar with Palau, a population overview of Palau and the states of Melekeok, Airai and Koror is included within the analyses in this research document. Some people consider the statistics of population may be skewed because the “usual residence” is defined as “the place where the person lives and sleeps most of the time.”<sup>124</sup> “Persons who stay here most of the week while working even if they have a

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<sup>124</sup> Republic of Palau, “*P2005-1 2005 Census of Population and Housing of the Republic of Palau*” questionnaire, (Koror, 2005) 1

home somewhere else”<sup>125</sup> As many people in Palau stay near their place of work during the week and return “home” for their weekend, the population figures may be distorted to favor the commercial center of Koror and the satellite suburb of Airai.

The *2005 Census* distinguishes the tenure of the housing units between owner-occupied and renter-occupied. The housing units that were not owner-occupied were classified as renter-occupied housing units regardless of whether or not rent was paid.<sup>126</sup>

The *2005 Census* defines a housing unit as a house, apartment, or a group of rooms or single room occupied or intended to be occupied as separate living quarters.<sup>127</sup> “Separate living quarters are those in which the occupants live and eat apart from any other persons in the building and have access only from the outside of the building or through a common hall.”<sup>128</sup> The categories of housing units in the *2005 Census* are the single family detached house, the single family attached house and buildings with two or more apartments. The *2005 Census* separates apartment buildings into categories of buildings with two apartments, buildings with three or four apartments, buildings with five to nine apartments, buildings with ten to nineteen apartments, and buildings with more than twenty apartments.<sup>129130</sup>

The *2005 Census* collected data on the material used for the roofs and the outside walls of housing units. It classified each housing unit according to the type of material used most in the construction of its roof. The material categories employed were poured concrete, metal (including zinc, steel, tin, etc.), wood (including wood board, plywood etc.), thatch (including sugar cane leaves, palm or pandanus thatch, palm leaves, straw etc.), and other – the last category accounting for all materials not covered by the previous four categories.<sup>131</sup> The *2005 Census* also classified each unit according to the type of material used most in

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<sup>125</sup> Republic of Palau, *Census questionnaire*, 1

<sup>126</sup> Republic of Palau, *Republic of Palau 2005 Census Volume II: Census Monograph: Population and Housing Profile* (Koror: Office of Planning and Statistics, 2006), 139

<sup>127</sup> Republic of Palau, *2005 Census*, 139

<sup>128</sup> Republic of Palau, *2005 Census*, 139

<sup>129</sup> Republic of Palau, *Census questionnaire*, 1

<sup>130</sup> Republic of Palau, *2005 Census*, 140

<sup>131</sup> Republic of Palau, *2005 Census*, 141



the construction of its outside walls. Separate categories included as poured concrete, concrete blocks (including those where plaster cement covered the wall), metal (including zinc, steel, tin, etc.), wood (including wood board, plywood etc.), and other – the latter once more accounting for all construction materials not covered in the specific categories.<sup>132</sup>

The *2005 Census* collected data on the utilities of the housing units. This research document focuses on the utilities that Euro American society assumes are integral in standard housing units, but may be considered luxuries by Palauan standards. Included in this research document are hot and cold running water, inside flushing toilet, inside bathtub or shower, and air conditioning. Data on electrical supply was perused, but is not detailed in this research document. Almost ninety nine percent of all housing units in Palau are equipped for power, whether or not they are connected.<sup>133</sup>

The *2005 Census* did not categorize as hot water that supplied by an electric faucet attachment at the kitchen sink, an electric shower attachment, or other similar equipment.<sup>134</sup> A flush toilet consisted of any toilet connected to piped water and emptied into a public sewer, septic tank, or cesspool. If the unit did not have a flush toilet, the census asked a respondent to identify the type of toilet facility in his or her housing unit – categorized as outhouse or privy or other or none.<sup>135</sup> A bathtub or shower was counted only if permanently connected to piped running water.<sup>136</sup> A housing unit was considered air conditioned if it had at least one individual air conditioning room units.

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<sup>132</sup> Republic of Palau, *2005 Census*, 141

<sup>133</sup> Republic of Palau, *2005 Census*, 149

<sup>134</sup> Republic of Palau, *2005 Census*, 142

<sup>135</sup> Republic of Palau, *2005 Census*, 142 - 143

<sup>136</sup> Republic of Palau, *2005 Census*, 143

## Categories of Housing Units in Palau

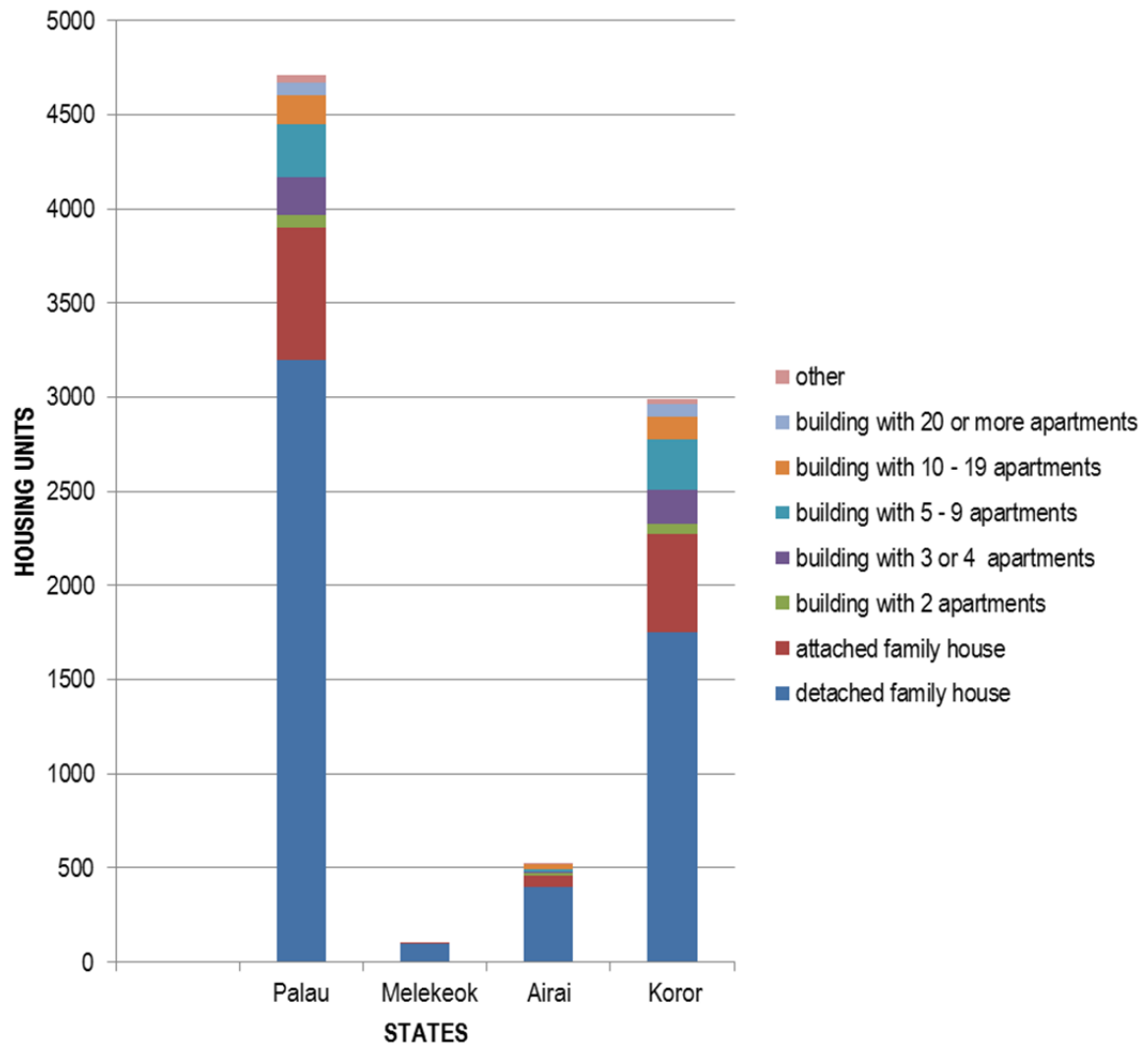


Figure 44: Housing in Palau: graph by writer from data from 2005 Census

### Palau

On April 1, 2005 Palau had a population of nineteen thousand, nine hundred and seven people, fourteen thousand, four hundred and thirty eight of whom were Palauan and five thousand, four hundred and sixty

nine non-Palauan.<sup>137</sup> Seventy three percent of the population of Palau was Palauan, one percent was Carolinean, two percent were other Micronesian, sixteen percent were Filipino, two percent were Chinese, zero point four percent were Taiwanese, zero point four percent were Korean, two percent were Vietnamese, three percent were other Asians, probably Japanese as there is no actual category for them, one percent were white, and zero point three percent were other ethnicity.

On April 1, 2005 Palau had a total of four thousand seven hundred and seven occupied housing units and six hundred and forty eight unoccupied (vacant) housing units. Sixty eight percent of the occupied housing units in Palau were detached family houses, fifteen percent were attached family houses, seventeen percent were apartment buildings and the remaining one percent was other, being campers, vans, or shacks. Eighty one percent of the housing units were owner occupied. This may be differentiated into ninety three percent of the detached family housing units were owner-occupied, seventy five percent of the attached family housing units were owner-occupied, and average of thirty eight percent of the apartments were owner-occupied and eighty seven percent of other were owner occupied.

On April 1, 2005 ten percent of the housing units in Palau were constructed of poured concrete exterior walls, thirty percent were constructed of mainly concrete block exterior walls, twenty two percent of mainly metal exterior walls, thirty seven percent of mainly wood exterior walls and two percent of other materials. Thirteen percent of the housing units in Palau had concrete roofs, eighty three percent had metal roofs, three percent had wood roofs, one percent had thatch roof and one percent had other materials.

On April 1, 2005 twenty percent of the housing units in Palau had hot and cold running water in the unit and thirty nine percent had cold water only. Seventeen percent of the owner-occupied housing units in Palau had hot and cold running water in the unit, and thirty nine percent had cold water only. Zero point two percent of the owner-occupied housing units had hot and cold running water in the building and one percent

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<sup>137</sup> Republic of Palau, *2005 Census*, 10

had cold water only. Forty three percent of the owner-occupied housing units had no water in the building, therefore it has been assumed that the water supply outside the building.

Thirty five percent of the rented housing units had hot and cold running water in the unit, and thirty eight percent had cold water only. One percent of the rented housing units had hot and cold running water in the building and one percent had cold water only. Twenty five percent of the rented housing units had no water in the building, therefore it has been assumed that the water supply outside the building.

On April 1, 2005 sixty eight percent of the housing units in Palau had an inside flush toilet, thirty two percent had an outside flush toilet, and one percent had an outhouse. Sixty seven percent of the housing units in Palau had an inside bath tub or shower and thirty one percent had an outside bath tub or shower. Therefore two percent of the housing units in Palau had no bath tub or shower.

Forty seven percent of the housing units in Palau had at least one air conditioning unit.

## Melekeok



Figure 45: Map of Melekeok

Section of Topographic Map of Babaldaob South Republic of Palau Caroline Islands

U.S. Department of the Interior, United States Geological Survey (Interior - Geological Survey, Reston Virginia - 2004)

IBSN 0-607-95452-3

On April 1, 2005 Melekeok had a population of three hundred and ninety one people, three hundred and twenty two of whom were Palauan and sixty nine non-Palauan.<sup>139</sup> Eighty two percent of the population of Melekeok was Palauan, three percent were other Micronesian, ten percent were Filipino, two percent were Korean, two percent were other Asians, probably Japanese and one percent were white.

On April 1, 2005 Melekeok had a total of one hundred and three occupied housing units. Ninety three percent of the occupied housing units in Palau were detached family houses, and seven percent were attached family houses. Ninety eight percent of the housing units were owner occupied. This may be

<sup>138</sup> Rectangular area on map used in comparison with Augustine Kramer's map of Melekeok on page 48

<sup>139</sup> Republic of Palau, *2005 Census*, 10

differentiated into ninety eight percent of the detached family housing units were owner-occupied, all of the attached family housing units were owner-occupied.

On April 1, 2005 eleven percent of the housing units in Melekeok were constructed of poured concrete exterior walls, twenty one percent were constructed of mainly concrete block exterior walls, eighteen percent of mainly metal exterior walls, and fifty percent of mainly wood exterior walls. Four percent of the housing units in Melekeok had concrete roofs, ninety four percent had metal roofs, and two percent had thatch roof.

On April 1, 2005 fifteen percent of the housing units in Melekeok had hot and cold running water in the unit and forty seven percent had cold water only. Thirteen percent of the owner-occupied housing units in Melekeok had hot and cold running water in the unit, and forty eight percent had cold water only. Zero point two percent of the owner-occupied housing units had hot and cold running water in the building and one percent had cold water only. Forty percent of the owner-occupied housing units had no water in the building; therefore it has been assumed that the water supply was outside the building.

All of the rented housing units had hot and cold running water in the unit.

On April 1, 2005 sixty three percent of the housing units in Melekeok had an inside flush toilet, and thirty seven percent had an outside flush toilet. Sixty five percent of the housing units in Melekeok had an inside bath tub or shower and thirty five percent had an outside bath tub or shower.

Twenty six percent of the housing units in Melekeok had at least one air conditioning unit.

## Airai



Figure 46: Map of Airai

Section of Topographic Map of Koror Republic of Palau Caroline Islands, United States Geological Survey  
U.S. Department of the Interior, United States Geological Survey (Interior - Geological Survey, Reston Virginia - 2004)  
ISBN 0-607-95445-0

On April 1, 2005 Airai had a population of two thousand, seven hundred and twenty three people, one thousand, five hundred and ninety four of whom were Palauan and one thousand, one hundred and twenty nine non-Palauan.<sup>141</sup> Fifty nine percent of the population of Airai was Palauan, one percent was other Micronesians, twenty percent were Filipino, four percent were Chinese, one percent was Korean, twelve percent were Vietnamese, three percent were other Asians, probably Japanese as there is no category for them, one percent were white, and zero point four percent were other ethnicity.

On April 1, 2005 Palau had a total of five hundred and twenty nine occupied housing units. Seventy six percent of the occupied housing units in Airai were detached family houses, ten percent were attached family houses, twelve percent were apartment buildings and the remaining two percent was other, being campers, vans, or shacks. Eighty nine percent of the housing units were owner occupied. This may be differentiated into ninety five percent of the detached family housing units were owner-occupied, eighty

<sup>140</sup> Rectangular area on map used in comparison with Augustine Kramer's map of Airai on page 46

<sup>141</sup> Republic of Palau, *2005 Census*, 10

percent of the attached family housing units were owner-occupied, and average of fifty three percent of the apartments were owner-occupied and all of other were owner occupied.

On April 1, 2005 four percent of the housing units in Airai were constructed of poured concrete exterior walls, forty one percent were constructed of mainly concrete block exterior walls, twenty percent of mainly metal exterior walls, thirty percent of mainly wood exterior walls and five percent of other materials. Fourteen percent of the housing units in Airai had concrete roofs, eighty percent had metal roofs, four percent had wood roofs, and two percent had other materials.

On April 1, 2005 twenty five percent of the housing units in Airai had hot and cold running water in the unit and forty six percent had cold water only. Twenty three percent of the owner-occupied housing units in Airai had hot and cold running water in the unit, and forty six percent had cold water only. Zero point two percent of the owner-occupied housing units had hot and cold running water in the building and one percent had cold water only. Thirty percent of the owner-occupied housing units had no water in the building; therefore it has been assumed that the water supply was outside the building.

Thirty nine percent of the rented housing units had hot and cold running water in the unit, and forty three percent had cold water only. Eighteen percent of the rented housing units had no water in the building; therefore it has been assumed that the water supply was outside the building.

On April 1, 2005 seventy four percent of the housing units in Airai had an inside flush toilet, twenty six percent had an outside flush toilet, and zero point two percent had an outhouse. Sixty six percent of the housing units in Airai had an inside bath tub or shower and twenty four percent had an outside bath tub or shower.

Forty seven percent of the housing units in Airai had at least one air conditioning unit.



A detailed topographic map of the Ngeri area in Nigeria. The map shows various towns and settlements, including Ngeri, Ngeri, Ngeri, and Ngeri. A black box highlights a specific area in the center of the map, which is the focus of the study. The map also shows the Niger River and other geographical features.

Section of Topographic Map of Koror Republic of Palau Caroline Islands, United States Geological Survey  
U.S. Department of the Interior, United States Geological Survey (Interior - Geological Survey, Reston Virginia - 2004)  
ISBN 0-607-95445-0

On April 1, 2005 Koror had a total of two thousand nine hundred and ninety three occupied housing units. Fifty nine percent of the occupied housing units in Koror were detached family houses, seventeen percent were attached family houses, twenty three percent were apartment buildings and the remaining one

143 Republic of Palau, *2005 Census*, 10.

percent was other, being campers, vans, or shacks. Seventy three percent of the housing units were owner occupied. This may be differentiated into eighty nine percent of the detached family housing units were owner-occupied, sixty nine percent of the attached family housing units were owner-occupied, and average of thirty five percent of the apartments were owner-occupied and eighty one percent of other were owner occupied.

On April 1, 2005 thirteen percent of the housing units in Koror were constructed of poured concrete exterior walls, thirty one percent were constructed of mainly concrete block exterior walls, sixteen percent of mainly metal exterior walls, thirty nine percent of mainly wood exterior walls and one percent of other materials. Sixteen percent of the housing units in Koror had concrete roofs, eighty percent had metal roofs, three percent had wood roofs, zero point four percent had thatch roof and one percent had other materials.

On April 1, 2005 twenty five percent of the housing units in Koror had hot and cold running water in the unit and forty five percent had cold water only. Twenty two percent of the owner-occupied housing units in Koror had hot and cold running water in the unit, and forty seven percent had cold water only. Zero point two percent of the owner-occupied housing units had hot and cold running water in the building and zero point four percent had cold water only. Thirty percent of the owner-occupied housing units had no water in the building; therefore it has been assumed that the water supply was outside the building.

Thirty five percent of the rented housing units had hot and cold running water in the unit, and thirty eight percent had cold water only. One percent of the rented housing units had hot and cold running water in the building and one percent had cold water only. Twenty five percent of the rented housing units had no water in the building; therefore it has been assumed that the water supply was outside the building.

On April 1, 2005 seventy eight percent of the housing units in Koror had an inside flush toilet, twenty one percent had an outside flush toilet, and zero point four percent had an outhouse. Seventy eight percent of the housing units in Koror had an inside bath tub or shower and twenty two percent had an outside bath tub or shower.

Fifty six percent of the housing units in Koror had at least one air conditioning unit.

The dwellings in contemporary Palau are quite different from those of yesteryear, but some do have a portion people call the *eldeng*. The term usually refers to a closet or small room in which valuables are kept locked away to protect them from thievery or damage by children. Few, if any, believe that there is an association between these areas of the new style houses and ancestral spirits.



Figure 48: Comparison Maps of Airai  
from Augustin Krämer *Ergebnisse der Südsee-Expedition 1908 – 1910* and  
Section of Topographic Map of Koror Republic of Palau Caroline Islands, United States Geological Survey

When comparing Augustin Kramer's map of Airai with a more current map, it may be noticed that the current layout of the village follows closely the original layout. It may be noted that part of the causeway no longer exist, it has fallen into disrepair.



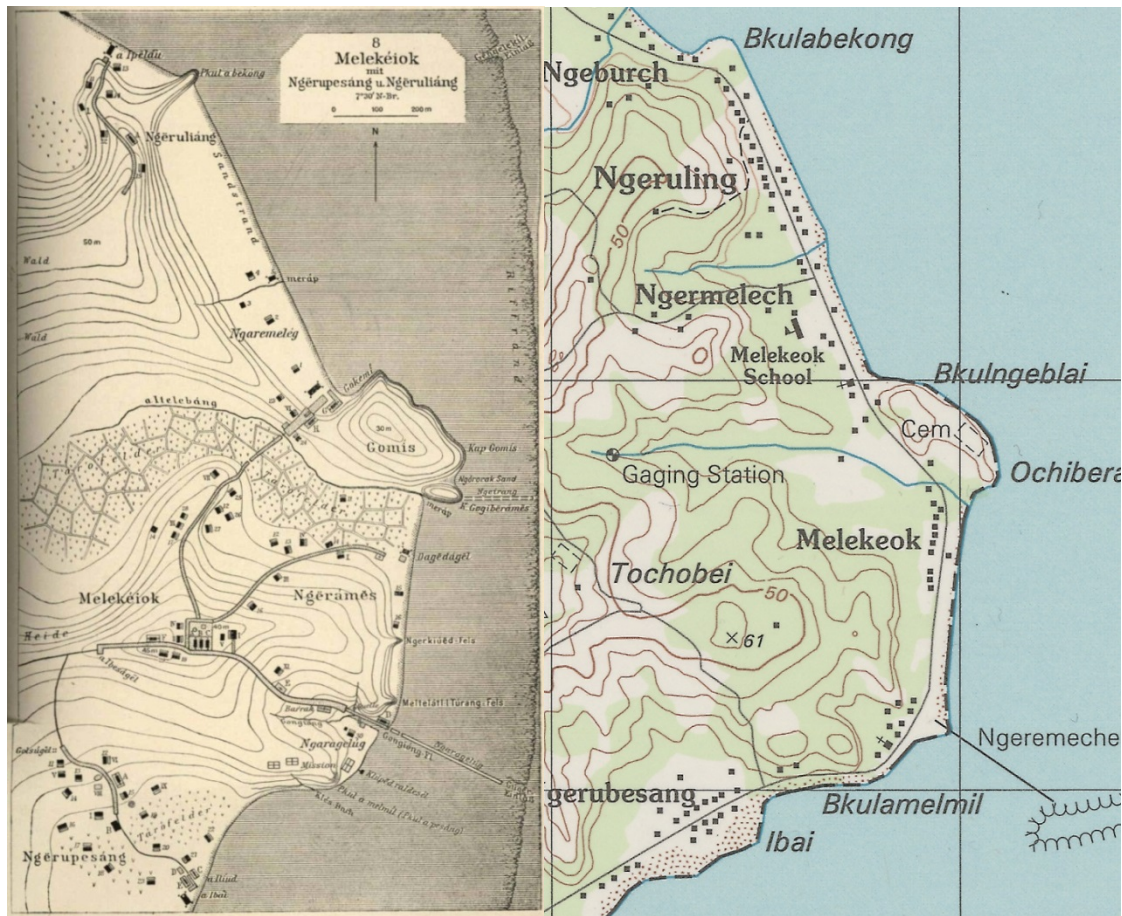


Figure 49: Comparison Maps of Melekeok  
from Augustin Krämer *Ergebnisse der Südsee-Expedition 1908 – 1910* and  
Section of Topographic Map of Babaldaob South Republic of Palau Caroline Islands

When comparing Augustin Kramer's map of Melekeok with a more current map, it may be noticed that the current layout of the village follows closely the original layout. There are more dwellings along the coast. Although the causeway has been severely damaged by typhoons, it has been repaired and still exists and remains much as indicated by Kramer.

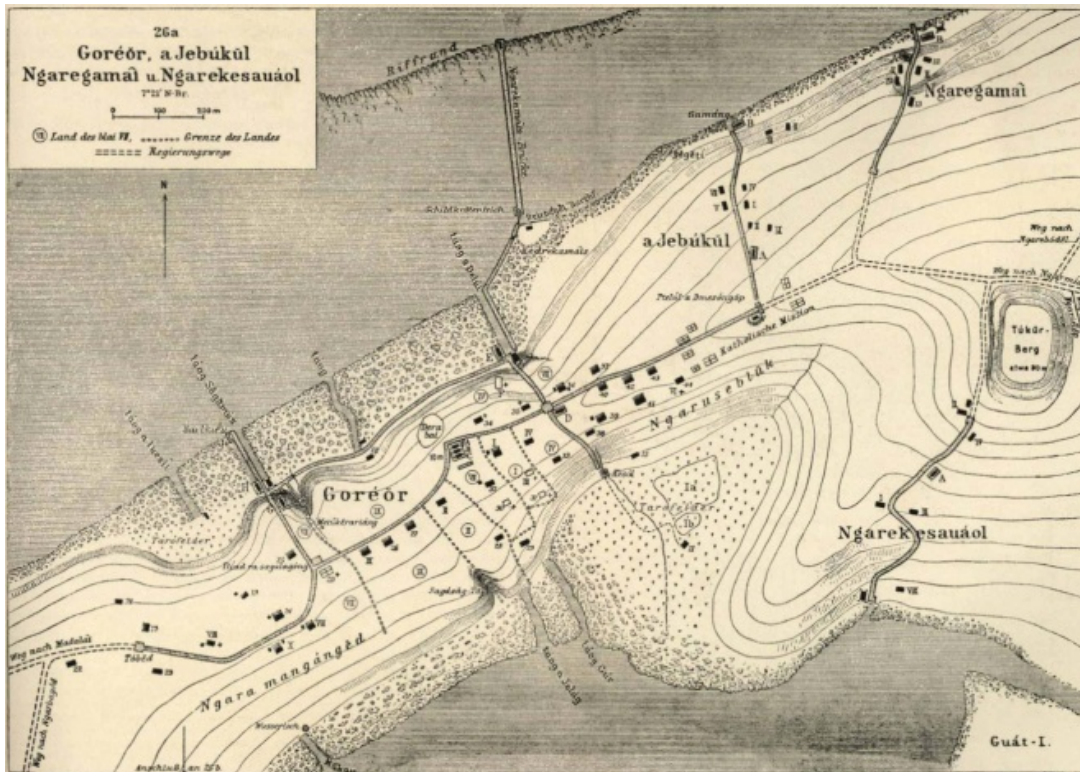


Figure 50: :Map of Koror  
 Plan 26a from Augustin Krämer *Ergebnisse der Südsee-Expedition 1908 – 1910*  
 II. Ethnographie: B. Mikronesien Band 3  
 2. Teilband. Abteilung II: Siedelungen, Bezirke, Dörfer, Verfassung  
 (Hamburg: L. Friederichsen & Co., 1919), 205

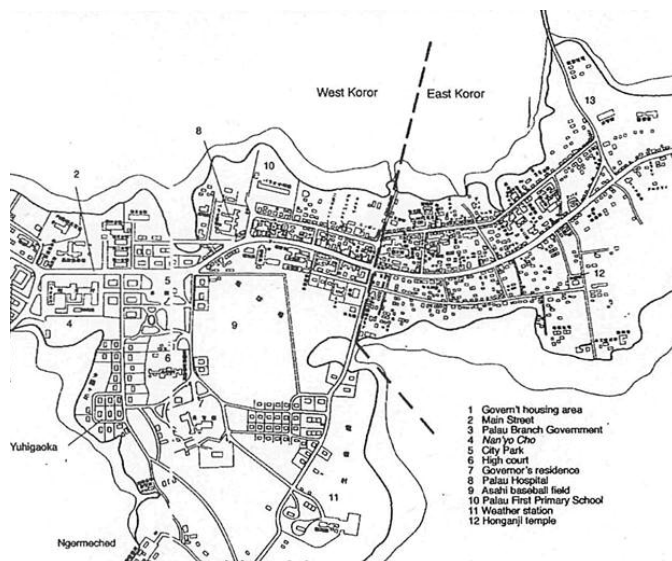


Figure 51: Japanese Map of Koror  
 Pacifika Renaissance Facebook  
<https://www.facebook.com/PasifikaRenaissance/photos/a.245786952205146.53502.245778818872626/799924866791349/?type=3&theater>





Figure 52: Section of Topographic Map of Koror Republic of Palau Caroline Islands, United States Geological Survey

When comparing Augustin Kramer's map of Koror with a map from the Japanese era and a more current map, it may be noticed that the current layout of the village follows closely the original layout. The causeway remains.

## Chapter Four: The Bai and the Blai

### Introduction

This chapter investigates descriptions of traditional *bai* and *blai* from written descriptions, sketches, paintings, lithographs and photographs by early visitors to Palau. Descriptions from different time periods were analyzed. The remaining traditional *bai* in Melekeok, Aimeliik and Airai were scrutinized and compared with descriptions of historical buildings to reveal whether traditional techniques were followed in their construction. The replica *bai* in Koror; the Museum *bai* and the Ngaramayong Cultural Center *bai* were also inspected and their construction noted.

### The Bai

In her introduction in the booklet *Bai*, Marciana Telmetang says, “Before the influence of foreign cultures made its impact in Palau, the *bai* was the most important architectural structure in each village.”<sup>144</sup> This statement may be misleading as traditionally most villages had more than one *bai*. Every village had a *bai er a rubak*, a meeting house for the governing elders, and as many *bai er a cheldebechel* as were necessary to accommodate the various men’s clubs; each men’s club had its own *bai*.<sup>145</sup>

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<sup>144</sup> Marciana Telmetang and Simeon Adelbai, *Bai* (Koror: Belau National Museum Inc, 1993), 1

<sup>145</sup> Telmetang and Adelbai, *Bai*, 1



Figure 53: Koror Bai 1910

sketch by Elisabeth Krämer

Figure 44 Ngarmidlbai, Bilekélék and Gosobulngau, the 3 Rubak's bai Meketi in Koror from East.

translation from: Abb. 44 Ngarmidlbai, Bilekélék und Gosobulngau, die 3 Rubakbai Meketi in Goréör aus Ost.

from Augustin Krämer *Ergebnisse der Südsee-Expedition 1908 – 1910, II. Ethnographie: B. Mikronesien Band 3 2. Teilband. Abteilung II: Siedelungen, Bezirke, Dörfer, Verfassung* (Hamburg: L. Friederichsen & Co., 1919), 208

The *bai er a rubak* was usually centrally located in the village adjacent a large stone platform. It served as the meeting house for the *rubak*, male chiefly elder, to deliberate on political issues such as warfare, and practical issues such as fishing expeditions and building construction.<sup>146</sup> At times it also served as a *bai er a beluu*, the community center for feasts, dance festivities and other special community functions.

The *bai er a cheldebechel* were often located at the entrances to the village. This was where the men congregated to socialize when they were not working.

The *bai er a rubak* was physically the most imposing and impressive building in the village. It was a symbol of the prosperity and prestige of the village. It was built using the finest materials, best craftsman

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<sup>146</sup> Telmetang and Adelbai, *Bai*, 36



ship and most elaborate ornamentation. It was explained to Karl Semper that, “On these beams, and outside on the gables, we carve our old and new stories. Many of them are very old, and we can’t understand them now.”<sup>147</sup>



Figure 54: Interior of bai, Table XV (after page 158)

watercolor by Elisabeth Krämer

Bai 28 Galap A. Interior from behind (but) with beams IIIb, IIb and Ib, seated right is Rubak No. III Ngirarois translated from Bai 28. Galáp A. Int. von hinten (But) aus. Zugbalken IIIb, IIb u. I; rechts sitzend Rub. No. III Ngirarois from Augustin Krämer *Ergebnisse der Südsee-Expedition 1908 – 1910, II. Ethnographie: B. Mikronesien Band 3 5. Teilband. Abteilung X: Baiverzeichnis* (Hamburg: L. Friederichsen, De Gruyter & Co., 1929), 158a

In the water color above, while the rendering of the building may be reasonably accurate, the domestic scene may be questionable. The woman and child in the *bai* is problematic, and may be a romanticized

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<sup>147</sup> Karl Semper, *The Palau Islands in the Pacific Ocean*, trans. Mark Berg (Guam: Micronesian Area Research Center, 1982), 123

European / German / woman's vision. The man on the right has an adze over his shoulder indicating that he was someone of rank. Although he has his basket for betelnut, he appears to be smoking, which was a practice likely to have been introduced by the Europeans.

The traditional *bai* was constructed without metal fixings. Wood members were connected by interlocking grooves and notches and mortice and tennon joints. In *Ergebnisse der Sudsee-Expedition* 1908-1910. Volume 3 Part 3, section "5. Wohnung und Hausbau",<sup>148</sup> pages 198 to 265, Augustin Krämer writes in great detail about the construction of both the *bai* and the *blai*. Unfortunately no adequate translation is available at this time. However, when comparing the illustrations and photographic images in Krämer's books to the traditional *bai* as seen in Airai and Melekeok today, it appears very little has changed. Other components of the *bai* were lashed together in intricate lashing patterns using sennit hand processed from coconut husk, and the building roofed with pandanus thatch. The *bai* was then carved with traditional designs and painted with earth pigments and ashes. The exterior painted surfaces were varnished with extracts from cheritem nuts. These extract are known for their resistance to rain, humidity and sunlight.<sup>149</sup> Construction of the traditional *bai* was immersed in ritual. The *dachelbai* was a master builder who was chosen for his knowledge of the intricacies of building.<sup>150</sup> He was experienced in rituals and procedures designed to ensure the safety of the workers. The *dachelbai* was knowledgeable about construction components, structure and ornamentation. He was the construction team leader and organizer.

Before beginning construction the *dachelbai* would enter the forest to observe and perform rituals. Selection of the appropriate time to begin the building and actual trees to be used were determined through the ritual.<sup>151</sup> The most commonly used woods used for *bai* construction were ukall, dort and mahogany. Ukall wood (*serianthes kanhira*) is hard, durable and easily worked.

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<sup>148</sup> Kramer, *Ergebnisse der Sudsee-Expedition*, 198 Translated on Google Translate

<sup>149</sup> Telmetang and Adelbai, *Bai*, 3

<sup>150</sup> Telmetang and Adelbai, *Bai*, 5

<sup>151</sup> Telmetang and Adelbai, *Bai*, 5

After the trees were felled, the lumber was transported to a temporary construction site where the carving and shaping of components was done. The work was performed to the measurements and stipulations specified by the *dachelbai*. Similar to the accepted traditional Euro American measurement practices, the traditional Palauan system of measurement is based on the human body.

In Euro American tradition the width of a person's thumb was considered an inch, and twelve thumb widths equaled a foot. Because every body is slightly different, this meant that the physical dimension for an inch and foot varied, but eventually, by agreement the actual dimensions were formally standardized. Similarly the Palauans had their system of measurement. Their measurements include, but are not limited to; *telechid* is the breadth of one finger, *erechid* is the breadth of two fingers, *tellutech* is the distance between the middle finger and the thumb of an open hand, *telechimkomkis* the breadth of a hand, and *tereu* is the distance of two arms outstretched. Because the construction of the *bai* was supervised by a *dachelbai*, it is possible to read from the size of building, who the *dachelbai* was.

Augustin Krämer commented, "Die Größe der Bai ist oft eine recht ansehnliche. Das Bai ra lei in Keklau maß innen 20,5 : 3,5m"<sup>152</sup> The size of the *Bai* is often quite considerable. The inside of the *Bai* measured in Keklau was 67'- 3" x 11'- 6".

The major components were fitted and assembled on the temporary construction site as they were finished. After the main body and the subfloor beams were completed they were dismantled and transported to the permanent site. The roof structure was then added and the building thatched.

After the completion of the *bai*, but before the *bai* was used, traditional ritual chants and dances of the *Osebekel a Melech* were performed from sunset until dawn to purify the building and to safeguard the occupants of the *bai* from misfortune. After sunset the men seated in the *bai* chant the "*Otengelel a Melech*"

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<sup>152</sup> Kramer, *Ergebnisse der Sudsee-Expedition*, 236 Translated on Google Translate

to invite the *Melech*, the spirit of misfortune, to join them. Throughout the night the men in the *bai* and the community outside chanted and responded to subsequent chants.<sup>153</sup>

When the *chemeraech*, the morning star, arose at dawn the “*Osebekel a Melech*” chant was led by an elder, to entice the *melech* from the *bai*. One of his assistants followed him carrying a basket of palm nuts and pepper leaves and another with a burning bundle of dried palm sheath. Everyone joined the chant, stomping the floor with their feet as they moved towards the entrance of the *bai*. During the chant, the *melech* is believed to exit the *bai* through the apex of the front gable. Just before the end of the chant the basket of nuts and leaves and the burning sheath were thrown out of the *bai* through the front entrance.<sup>154</sup>

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<sup>153</sup> Telmetang and Adelbai, *Bai*, 6

<sup>154</sup> Telmetang and Adelbai, *Bai*, 6



Figure 55: Meeting house  
from Pacifica Renaissance Facebook, (Nanyo Gunto Shashincho ("The South Sea Islands Photo album") (1925)  
(<http://kindai.ndl.go.jp/info:ndljp/pid/1899639>).  
[https://www.facebook.com/245778818872626/photos/?tab=album&album\\_id=647410125376158](https://www.facebook.com/245778818872626/photos/?tab=album&album_id=647410125376158), accessed October 5,  
2016





Figure 56: Bai at Melekeok

When comparing the various *bai* described and illustrated by Augustin Kramer, the photograph from the Japanese era and the remaining traditional *bai* in Melekeok, Aimeliik and Airai, it appears the detailing and construction techniques are consistent.



Figure 57: Ngaramayong Cultural Center *bai* in Koror

The Ngaramayong Cultural Center *bai* was built by craftsmen from Melekeok. Although the detailing and construction was based on their traditional *bai*, they used modern tools and equipment; chain saws for felling trees, and mobile cranes for heavy lifting of the roof structure. The carving of the interior and exterior of the building was done manually with metal chisels and wooden mallet after the structure had been erected.

## The Blai

In his book *Die Palau-Inseln* describing his visit to Palau in 1862, Karl Semper describes the traditional *blai* as single room rectangular buildings from twenty-five to forty feet long and twelve to fourteen feet wide, with walls a maximum height of four feet.<sup>155</sup> Krämer's writing corroborates this, "Von der Anzahl der Fenster hängt die Länge des Hauses ab; folgende Dimensionen sind die üblichen:"<sup>156</sup> and provides the table as shown below. This writer is unable to discern whether the translation means the number of windows depended on the length of the house or length of the house depended on the number of windows.

| Number of<br>Windows | Length  |        | Width   |       | Height of the Wall |       |
|----------------------|---------|--------|---------|-------|--------------------|-------|
| 5                    | 37'- 9" | 11,50m | 11'- 6" | 3,50m | 3'- 10"            | 1.18m |
| 4                    | 29'- 6" | 9,-    | 9'- 10" | 3,-   | 3'- 11"            | 1,20  |
| 3                    | 19'- 8" | 6,-    | 8'- 2"  | 2,50  | 4'- 1"             | 1,25  |
| 2                    | 13'- 2" | 4,-    | 8'- 2"  | 2,50  | 3'- 7"             | 1,10  |

<sup>157</sup>

The window openings were the full height of wall.

The *blai* "were mounted on low rocks so that the floor of split bamboo was scarcely six inches above the ground"<sup>158</sup> with fire places built into the floor.

The house Semper had built for himself was a modification of the traditional *blai*. It was a three room house with a central reception room flanked on one side with his bedroom and on the other by his study. The bamboo mesh floor was elevated three feet above the ground. Seven foot high walls were of woven split bamboo between supporting posts embedded in the ground, with windows at "just the right height for

<sup>155</sup> Semper, *The Palau Islands in the Pacific Ocean*, 40

<sup>156</sup> Krämer, *Ergebnisse der Sudsee-Expedition*, 210 Translated on Google Translate

<sup>157</sup> Krämer, *Ergebnisse der Sudsee-Expedition*, 210 Translated on Google Translate

<sup>158</sup> Semper, *The Palau Islands in the Pacific Ocean*, 40



the only table that I had brought from Manila for my dissections.”<sup>159</sup> The pitched gable roof was of plaited pandanus. The kitchen was a small hut separate from the house.

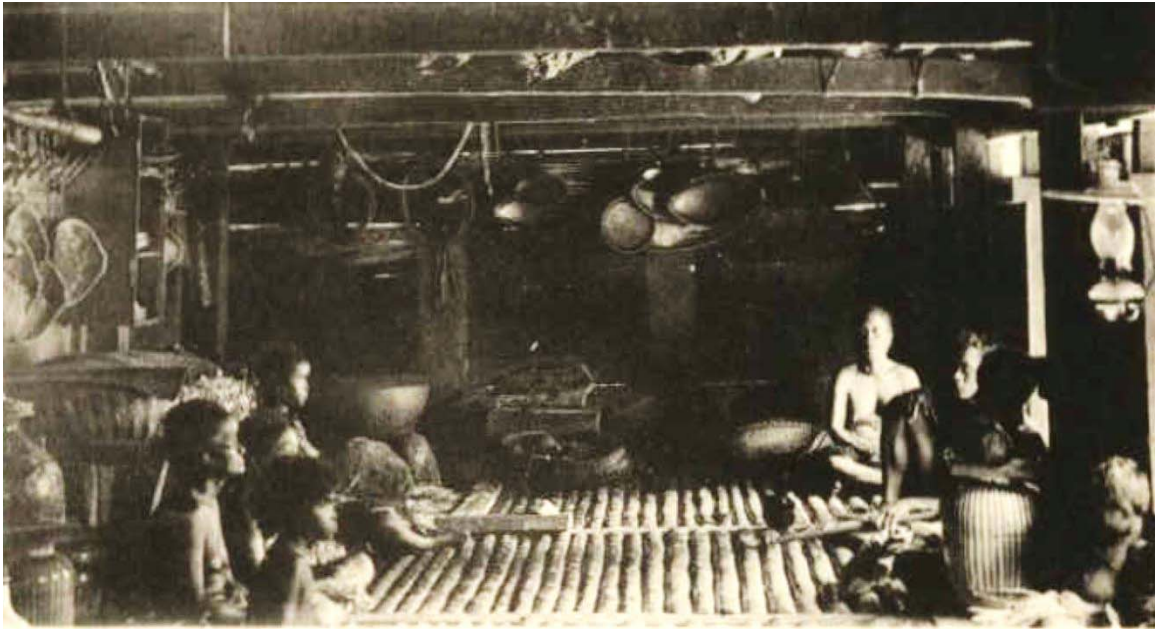


Figure 58: interior of blai  
from Augustin Kramer, *Ergebnisse der Sudsee-Expedition 1908-1910 Volume 3 Tafel 14* and  
from Micronesian Seminar Collection, Life 100 years ago, Photo 22  
[http://www.micsem.org/photos/life\\_100/22.htm](http://www.micsem.org/photos/life_100/22.htm) (accessed December 15, 2012)

The sacred portion of the house, the *eldeng*, was where the spirits of one's ancestors resided and it was there that offerings were made.<sup>160</sup> The sacred portion (*eldeng*) of the Palauan dwelling house was in olden times considered to be where the ghosts of the deceased members of the house were present. Out of respect for these ancestral spirits, children were not allowed to play there and discouraged from making noise in the proximity. Certain uses were considered proper. A man who was in process of assuming a title was sequestered in the *eldeng* for specified periods, young married couples were permitted to sleep there at times, and a new mother and her child might be visited there by relatives and friends.<sup>161</sup>

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<sup>159</sup> Semper, *The Palau Islands in the Pacific Ocean*, 40

<sup>160</sup> Roland Force and Maryanne Force, *Just One House: A Description and Analysis of Kinship in the Palau Islands* (Honolulu: Bishop Museum Publications, 1972), 83

<sup>161</sup> Force and Force, *Just One House*, 106



Figure 59: *Euamedal*, a four-door house  
from Pacific Worlds (Belau National Museum photograph)  
<http://www.pacificworlds.com/palau/native/native2.cfm>, accessed December 2012

## Chapter Five: Contemporary Palauan Customary/Cultural Practices

### Introduction

This chapter briefly describes several contemporary Palauan customary/cultural practices in present-day Palau as observed by this writer. These observations were corroborated and clarified by people who have lived in Palau for substantial periods of time and have experienced or participated in the practices. Their corroboration was solicited by requesting their participation in a survey; a brief questionnaire.

The questionnaire was crafted to minimize possible cultural framing bias. The four open-ended questions endeavor to avoid leading the respondent, in the hope that the more significant customary/cultural practices would emerge. The first question was deliberately general to solicit the respondent's unconscious personal prioritization of Palau's customary/cultural practices.

The questionnaire was emailed to people with whom this writer had associated during her four years as an instructor at Palau Community College. They are people from a diverse range of experiences:

- Palauans who grew up and live in Palau,
- Palauans who grew up in Palau but now live elsewhere,
- Palauans who grew up elsewhere but now reside in Palau, and
- non-Palauan long term residents, for whom Palau is home.

The questionnaire is a Microsoft Word Form; a document with restricted editing allowing the respondents to only fill in the form; refer to Appendix A. It was emailed to thirty-one people, and realized a thirty five percent response; eleven responses were received. Seventy-three percent of the respondents were Palauan; six of the eight women, and two of the three men who responded were Palauan. Only one person commented that they were unaware of which contemporary Palauan customary / cultural practices had been observed.

The data from the responses was tabulated and analyzed. Ninety percent of the respondents included *omengat/ngasech* in their list, eighty two percent included *kemildii/omenngades*, and sixty four percent included *ocheraol*.

All the women respondents (Palauan and non-Palauan) included *omengat/ngasech* and *kemildii/omenngades* in their list. The Palauan men respondents included various *ureor el beluu* in their list. Although this writer was unaware of the *ureor el beluu* Palauan customary/cultural practices listed by the Palauan men in their responses to the questionnaire, they are included in this document because they provide a powerful insight to the Palauan community spirit.

#### Responses from the Questionnaire

|                   | omengat / ngasech, chomesurch | kemildii, sis, omengades | ocheraol | cheldecheduuch | debes & kerritaki | bus / chelechiil | ureor el beluu | house building | first birthday | orrengea a buai | bekatel udoud |
|-------------------|-------------------------------|--------------------------|----------|----------------|-------------------|------------------|----------------|----------------|----------------|-----------------|---------------|
| Palauan women     | 6                             | 6                        | 4        | 4              | 2                 | 1                |                | 1              |                |                 |               |
| non-Palauan women | 2                             | 2                        | 1        | 1              | 1                 | 1                | 1              | 1              |                | 1               |               |
| Palauan men       | 1                             |                          | 1        | 1              | 1                 |                  | 2              |                |                |                 | 1             |
| non-Palauan men   | 1                             | 1                        | 1        |                |                   | 1                |                |                | 1              |                 |               |
| Total             | 10                            | 9                        | 7        | 6              | 4                 | 3                | 3              | 2              | 1              | 1               | 1             |
| Percentage        | 91%                           | 82%                      | 64%      | 55%            | 36%               | 27%              | 27%            | 18%            | 9%             | 9%              | 9%            |

*Omengat / ngasech*: first birth

- *Chomesurch*: hot baths
- *Chelsobel*: food brought

*Kemeldiit*: funeral

- *Sis*:
- *Omengades*: paving the grave

*Ocheraot*: gathering for collecting money to assist relative in paying for a house (party)

*Cheldecheduuch*: settlement of estate / distribution of property

*Debes & kerritakl / debes ra klobak mea mechas, omelobech*: passing of a title

*Bus / chelechiit*: marriage ceremony

*Ureor el beluu*: public works

- *Omelai lomeuache / omengiut el taoch*: clearing of mangrove channels
- *Omengades el chades*: gathering of community members to restore public piers and docks
- *Omengedes el btelul a chang*: construction/repair of stone piers
- *Omeruul el bai*: construction/repair of traditional chief's meeting house
- *Omelai el omoachel*: clearing of rivers as source of water and water for taro patch
- *Omenges el kall*: contributing of food for community events, visitors, celebration of accomplishments

*Orrenge a buai*: public hearing

*Bekatel udoud*: gathering for collecting money to assist relative in paying debts/mutual obligations

## Omengat (First Birth Ceremony)

Omengat is a community celebration of life; the life of a first-time mother and her baby. It is an important public ceremony with a gathering of the baby's mother and father's families and friends, where the new mother displays her strength and beauty. It honors her ability to procreate and establishes family ties.<sup>162</sup>

Because of the hazards of pregnancy and childbirth, it was traditional Palauan customary practice for a pregnant woman to "return to her mother's household several months before she was due and remain under the care of the family for some months after she had delivered."<sup>163</sup> Increasingly today, women look for a superior health care facility abroad (Guam, Hawaii or the Philippines) to birth their baby.<sup>164</sup>

In *Ergebnisse der Sudsee-Expedition 1908-1910: Volume 3*, Augustin Kramer asserted that it was customary for a woman to return to the house of her parents in the later stages of her pregnancy – "at the very latest 6 months into her pregnancy."<sup>165</sup> Elisabeth Kramer notes that a woman's female relatives assist in birthing her baby; with "the old wise *gobadil*/whispering chants."<sup>166</sup>

After a woman gives birth to her first child, her mother or a "sister" help care for the baby while she is treated with herbal medicines and *omesurech* (hot baths). She is bathed with *osurech* (leaves from the *rebotel*/tree boiled in water) to help heal her body.<sup>167</sup> Coinciding with *omesurech* is *chelsobel* (the provision of the best foods for the new mother by her kin). The duration of *omesurech* may vary from four to fifteen days, depending on the new mother's status and the rank of her clan.<sup>168</sup> These hot baths conclude on the morning of her *omengat*.<sup>169</sup>

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<sup>162</sup> from survey

<sup>163</sup> Fran Hezel, *The New Shape of Old Island Cultures: A Half Century of Change in Micronesia* (Hawaii: University of Hawaii Press, 2001), 67

<sup>164</sup> Hezel, *The New Shape of Old Island Cultures*, 69

<sup>165</sup> Kramer, *Ergebnisse der Sudsee-Expedition*, 266

<sup>166</sup> Kramer, *Ergebnisse der Sudsee-Expedition*, 269

<sup>167</sup> Society of Historians, *Palau Ethnography Rechuodel*, trans. DeVern Reed Smith (San Francisco: U.S. National Park Service, 1997), 32

<sup>168</sup> from survey

<sup>169</sup> Society of Historians, *Palau Ethnography Rechuodel*, 33

Augustin Kramer wrote, "On the seventh day, before the end of this period of suffering, marked with the *ngasag* celebration, there is one final torture, the culmination of everything; the steam bath *gosurug*."<sup>170</sup> Responses to the questionnaire affirm that the first-time mother is pampered with *chelsobel* and *omesurech*, which conflicts with Augustin Kramer's account.<sup>171</sup>

In preparation for her *omengat* the first-time mother's kinswomen collect especially fragrant herbs, and the men build a *bliukel* (a steam hut of bent bamboo poles covered with blankets or pandanus mats). On the afternoon of her *omengat* the first-time mother is escorted to the *bliukel* by her kinswomen and seated on a special chair surrounded by bowls of aromatic steaming water. While the *bliukel* is closed, the temperature within is maintained at the hottest that she can endure. After the required period of time in the *bliukel* the new mother is dried off, and her body and face rubbed with *reng* (turmeric oil).<sup>172</sup> She is dressed in a grass skirt, woven belt, adorned with traditional ornaments and debuted before the gathered community.<sup>173</sup>

Virginia Luka writes that her sister Maria and her mother argued with her grandmother about covering her breasts at her *omengat*. Because of her Catholic upbringing, Maria was too embarrassed to expose herself to the gathering and refused to leave the house topless.<sup>174</sup>

The baby's father's visiting family place *udoud* (Palauan money) on the first-time mother's neck, and their kinswomen lay the *telutau* (woven green coconut fronds) for the new mother to walk on.<sup>175</sup> They perform "*mesuch a uach*", bathing her feet with hot water. The father's family is expected to attend the ceremony and pay (in U.S. dollars and Palauan money) for the expenses incurred by the mother's clan for the hot bath treatments and the food served<sup>176</sup>

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<sup>170</sup> Kramer, *Ergebnisse der Sudsee-Expedition*, 266

<sup>171</sup> from survey

<sup>172</sup> Society of Historians, *Palau Ethnography Rechuodel*, 32-33

<sup>173</sup> from survey

<sup>174</sup> Virginia Luka, *Palau: Impacts of Education and Cultural Changes* (paper for Anthropology and Education, Southern Oregon University, 2010) accessed September 16, 2013, <http://www.sou.edu/mcnair/documents/virginialucas>

<sup>175</sup> Society of Historians, *Palau Ethnography Rechuodel*, 34-35

<sup>176</sup> from survey



Figure 60: New mother standing on mat  
from The Palau Society of Historians, *Palau Ethnography Rechuodel: Traditional Culture and Lifeways Long Ago in Palau*, trans. DeVern Reed Smith (San Francisco: U.S. National Park Service, 1997), 34

Figure 61: Telly (new mother) standing on mat  
from Facebook Photos of Telly, June 2012

Karl Semper observed an *omengat* while he was in Peleliu. He described young woman, whose child was ten days old, ascending the stairs to a ten foot high platform. The platform had been built of thick tree trunks in front of the village chief's sister's house to enable the new mother to be viewed by the assembled crowd. Finely woven mats formed a path from the house to the top of the platform.<sup>177</sup>

Karl Semper does not mention any garments that the new mother wore but describes her entire body as painted red and her hair bound into a high, smooth knot. She sat atop of the platform "drawing her elbows up tightly against her breasts, which she raised up, and stretched her hands outwards" and then

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<sup>177</sup> Semper, *The Palau Islands in the Pacific Ocean*, 247



later crossed her arms over her chest.<sup>178</sup> Perhaps some detail of Karl Semper's description was lost in translation.

Although the fundamental beliefs, values, and enactment of *omesurech* and *omengat* remain traditional, contemporary influences have augmented and modified the execution of the rituals. For health reasons, *omesurech* traditionally began immediately after the baby's birth. Common current practice is for *omesurech* to begin one to three months after the baby is born. First-time mothers whose baby was born off-island may begin *omesurech* on her return.

Instead of only the baby's father's woman relatives traditional chanting and dancing at the *omengat*, as they bathe the feet of the new mother, now also friends and acquaintances of the new mother and father partake in the ceremony. Sometimes even the men join the traditional women's dance. Often the celebration intensifies into a party with a live band and alcoholic beverages in addition to the traditional foods.<sup>179</sup>

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<sup>178</sup> Semper, *The Palau Islands in the Pacific Ocean*, 248

<sup>179</sup> from survey

## Kemeldiil (Funeral)

*Kemeldiil* is a community celebration of life; the life of the deceased and his/her successors. It is an event where relatives and friends gather to pay their respects. Traditionally the funeral service occurred soon after death; within twenty four hours. Nowadays, with the availability of the morgue, it may now be delayed weeks or months to enable off-island family to return to participate.<sup>180</sup>

*Kemeldiil* is the event which follows (usually) the church service and precedes burial, in which deceased is paid respect. The family's responsibilities for the funeral of the deceased person depend on the role and status s/he had in their community; whether s/he was married and held a title.<sup>181</sup> Traditionally, while the deceased body was still in the house prior to the ceremony, close women relatives of the mother's side of the family sat and mourned on the right side of the body and close women relatives of the father's side of the family sat on the left side of the body. Traditionally close aunties stayed at the house of the deceased for about a month after the burial, and other relatives were expected to provide feed them during this time.

*Sis* is a gathering to say goodbye to mourners who came to console grieving family members. Traditionally, four days after the death and burial of a person, a ceremony was performed to ascertain the cause of death. A *sis* (the plant, with its leaves) was placed in the middle of the floor where the body had lain during the funeral and spirits called to determine the cause of death. The person conducting the ceremony would call on the spirits and when the spirits were ready, each of the people circling the *sis* would say something that may have caused the death. When the actual cause of death was mentioned the *sis* would rise on its own and shake (dance). The reason this was practiced was to ensure that if the cause of death was related to the spirits, the spirits could be appeased to avoid deaths of other family members.

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<sup>180</sup> from survey

<sup>181</sup> Society of Historians, *Palau Ethnography Rechuodel*, 39

Although the ceremony is not now practiced, some clans and families prepare small feasts on that fourth day after the funeral before people leave.<sup>182</sup> Wives of male relatives provide money and maternal relatives provide food for the event.

*Omengades* is the paving the grave and / or placing the headstone on the grave

*Cheldech duch* is a family conference after death of spouse to settle the estate. Traditionally this occurred about a month after the funeral, but today it may be combined with the funeral. There are ritual obligations and responsibilities to fulfill. Assets and properties are divided and given to the wife and children. Relatives and friends are called upon to contribute to the bereaved family. The event provides a venue for this donation. Relatives of the husband collect money (US money and Palauan money) and turtle shells (toluk) to present to the wife (if she is alive) for her, her children and their relatives to pay funeral expenses, hospital bills and other debts.<sup>183</sup> The exact amount is negotiated between the clans based on the nature of their relationship. The basic tenets of the "omeluchel system" which is the basis for Palau's exchange has remained intact, except for the items used, such as money, food, public address system, drinks, venues.

Involvement in these customs/cultural practices bond/link the members of the clan together, and provide social interactions and networking of clan members with others. It depicts social values, the value of collectivism and practice of reciprocity which may be considered a traditional form of insurance. "The more people you help, the more they are likely to help you when you face your own obligations."<sup>184</sup>

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<sup>182</sup> Palauan Online Dictionary: Palauan-English Dictionary, accessed October 5, 2016  
<http://tekinged.com/?lookup=sis&direction=pert>

<sup>183</sup> from survey

<sup>184</sup> from survey

## Ureor el Beluu: Omengades el chades (Public Works)

Ureor el Beluu are community improvement projects in which all residents are expected to participate either in labor or food contributions for the laborers.<sup>185</sup> Omengades el chades is gathering of community members to restore public piers and docks. This was demonstrated after Typhoon Bopha devastated the west coast of Palua, particularly Babeldaob, Anguar and Peleliu, on the morning of December 3 2012. Although there were no fatalities, the storm surge damage to coastal areas was extensive. Initial reports by United Nations Office for the Coordination of Humanitarian Affairs (OCHA) on December 5 2012 were that 92 homes destroyed and 59 sustained severe damage.

The causeway at Melekeok was almost completely leveled by the storm surge, some waves reaching heights of 35 feet or more.<sup>186</sup> By late December its reconstruction had begun. On December 29 2012 a proud woman declared on Facebook, "I am very proud that my husband, many of his brothers and our elder son, 15½, is taking his place with the Men of Melekeok to reconstruct the dock in front of the state office. It was destroyed in the typhoon. They are helping rebuild the work of their ancestors, with the help of some modern tools: a backhoe for backfill and a budget."

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<sup>185</sup> Palauan Online Dictionary: Palauan-English Dictionary, accessed October 5, 2016, <http://tekinged.com/?lookup=sis&direction=pert>

<sup>186</sup> Michael Young and David Ginsburg, "Before and After the Storm: The Impacts of Typhoon Bopha on Palauan Reefs," *Scientific American*, accessed October 5, 2016, <https://blogs.scientificamerican.com/expeditions/before-and-after-the-storm-the-impacts-of-typhoon-bopha-on-palauan-reefs/>

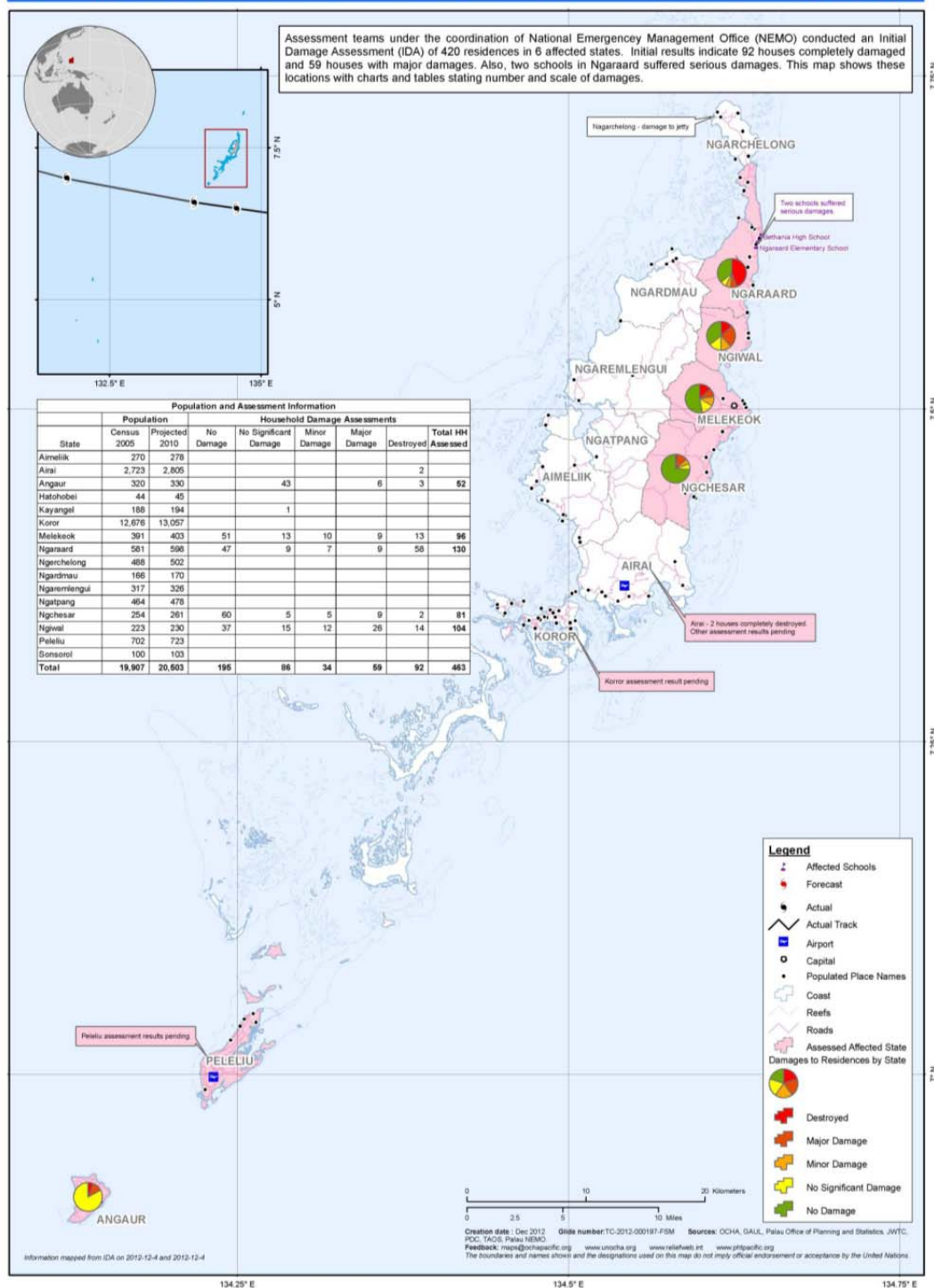


Figure 62: Initial Damage Assessment, December 5 2012

OCHA Regional Office for the Pacific, *OCHA Situation Report No. 2*[http://reliefweb.int/sites/reliefweb.int/files/resources/TyphoonBopha\\_SitRep2\\_5Dec2012\\_Final\\_0.pdf](http://reliefweb.int/sites/reliefweb.int/files/resources/TyphoonBopha_SitRep2_5Dec2012_Final_0.pdf)



Figure 63: Melekeok Causeway after Typhoon Bopha  
from Facebook photos, December 2012

Figure 64: Rebuilding the Melekeok Causeway  
from Facebook photos, December 2012

*Ocheraol* – money-raising party – monetary assistance from relatives. The person contributing expects reciprocity and the interaction strengthen clan relationships.<sup>187</sup> In traditional Palau, wealth was not defined as ownership, but by prestige and status that emanated from contributing generously within the community. These contributions “secured a social network, a sort of human capital of culture, a treasury of ritual debts and obligations that would yield interest to one’s clan and family forever.”<sup>188</sup>

When someone in Palau advises that he has custom, as Tutii in his email “I have a family custom that whole day (Saturday) in Palau.” before our 75% complete document committee meeting, he is disclosing that he is committed to participating in a customary social obligation. In Palau, it is understood and accepted that these customary social obligations take priority over other commitments. To accommodate the contemporary lifestyle, custom(ary obligations) often occur during the weekends.

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<sup>187</sup> Vitarelli and Rehuher, *Olechotel Belau*, 19

<sup>188</sup> Davis, *Wayfinders: Why Ancient Wisdom Matters in the Modern World*, 77

## Chapter 6: Work in Palau

### Introduction

This chapter provides an overview of work in Palau, from written descriptions and images from various time periods to current (from 2005 census).

### Brief historical overview of work in Palau

Pre-contact Palau had a sophisticated social structure with defined roles and responsibilities. Women's and men's domains were separate, reciprocal and complementary. On his walk around Koror and "farther into the country", Captain Henry Wilson observed that "the lands appeared to be pretty well cultivated, and the villages full of inhabitants."<sup>189</sup> He noticed "that the lower orders of the women were busied in looking after the yam plantations, which were mostly in swampy ground,"<sup>190</sup> while other women were "employed in making mats and baskets, dressing victuals, and nursing their children."<sup>191</sup> The reference to the women tending their taro may reflect the English attitudes about the social status of work within their own society. Henry Wilson continues, "The employment of the men seemed to be that of gathering coconuts, felling trees, and making spears and darts."<sup>192</sup>

Animal ecologist and ethnologist, Karl Semper observed that, "From the age of five or six, all young boys are compelled to enroll in a club in order to take part in wars and in public works required by the administration."<sup>193</sup> Public works included preparing for public feasts, clubhouse building, sewing sails for war canoes, and catching of certain fish.<sup>194</sup> In food production it was men's obligation to provide the protein

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<sup>189</sup> Peter Barker, *The Shipwreck of the Antelope East India Packet* (London: D Brewman, for R Randall, 1788), 68

<sup>190</sup> Barker, *The Shipwreck of the Antelope*, 68

<sup>191</sup> Keate, *An Account of the Pelew Islands*, 131

<sup>192</sup> Barker, *The Shipwreck of the Antelope*, 68

<sup>193</sup> Semper, *The Palau Islands in the Pacific Ocean*, 30

<sup>194</sup> Semper, *The Palau Islands in the Pacific Ocean*, 56

(*odoim*) while the women complemented and supplemented the diet by supplying starches (*ongraol*), fruits, and other land goods.<sup>195</sup>



Figure 65: Work assignments

Upper right, work assigned to women; lower left, work assigned to men  
from Palau Community Action Agency, *A History of Palau Volume One: Traditional Palau, the First Europeans*,  
(Koror: Palau Community Action Agency, 1976), 23

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<sup>195</sup> DeVerne Reed Smith, *Palau Ethnography Volume 2: Recommendations for the Preservation of Historic and Cultural Resources in Palau* (San Francisco: Micronesian Endowment for Historic Preservation, Republic of Palau : U.S. National Park Service, 1997), 13



## Taro cultivation

Women were responsible for planting, cultivation and harvesting taro. Planting was staggered to ensure a continuous food supply. Women worked diligently alongside each other in adjacent patches, comparing and competing with each other. It was a source of prestige and honor to have an abundant harvest from a well-tended productive plot.<sup>196</sup> "The only farming tool which was really used by the Palauans was a wooden pole made of split bamboo."<sup>197</sup> Women's role in food production freed the men for other tasks.

## Food Preparation

Basic foods consisted of fish, "taro, coconuts, bananas, sugar cane, oranges, lemons and apples."<sup>198</sup> Women were responsible for most of the food preparation and cooking. Despite the limited range of ingredients, Palauan women developed an impressive diversity and sophistication in food preparation and serving. Fish might be "stewed, boiled, smoked or roasted." <sup>199</sup>

## Tattooing

Tattooing was common for men and women in traditional Palau, with designs being especially ornate on women of high class.<sup>200</sup> George Keate wrote "this operation took place, as our people conceived, at a certain period of youth, they having never seen any children of either sex marked by it."<sup>201</sup> Augustin Kramer wrote that girls were generally tattooed at the onset of puberty because she could not marry until she was tattooed. His interpretation was "that few men would take an untattooed girl for a wife."<sup>202</sup>

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<sup>196</sup> Palau Community Action Agency, *A History of Palau Volume One: Traditional Palau, The First Europeans*. Koror: (Palau Community Action Agency, 1976), 22 - 24

<sup>197</sup> Palau Community Action Agency, *A History of Palau Volume One*, 28

<sup>198</sup> Palau Community Action Agency, *A History of Palau Volume One*, 37

<sup>199</sup> Palau Community Action Agency, *A History of Palau Volume One*, 38

<sup>200</sup> Vitarelli and Rehuher, *Olechotel Belau*, 18

<sup>201</sup> Keate, *An Account of the Pelew Islands*, 243

<sup>202</sup> Kramer, *Ergebnisse der Sudsee-Expedition*, 34

George Keate wrote the men's legs "from a little above their ancles to the middle of their thighs, were tattooed so very thick, as to appear dyed of a far deeper colour than their skin."<sup>203</sup> Augustin Kramer confirmed that their tattooed limbs look as if they had been dipped in blue- black dye.<sup>204</sup>



Figure 66: 'Ludee one of the Wives of Abba Thulle'  
engraving by H. Kingsbury, after A. Devis, 25.5 x 19.2 cm.  
From Keate, *Account of the Pelew Islands* (London, 1803). NK10,000/16 U4413. By permission of the National Library of Australia, Canberra. From George Keate *An Account of the Pelew Islands* ed Karen Nero and Nicholas Thomas (London: Leicester University Press, 2002) 169

Tattooing was performed by *dagalbai*, women skilled in the art. Before beginning the work, appropriate invocations were made to the gods, *Tahatoguttom* and *Melimrasak*.<sup>205</sup> After the body had been treated with leaves, the outline would be drawn on the body and tattooed in a systematic pattern of application using a needle and dye made of soot.<sup>206</sup> Tattoos began at the hands, up the arms to the shoulders, then from the feet and up the legs to the hips.<sup>207</sup>

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<sup>203</sup> Keate, *An Account of the Pelew Islands*, 78

<sup>204</sup> Kramer, *Ergebnisse der Sudsee-Expedition*, 33

<sup>205</sup> Kramer, *Ergebnisse der Sudsee-Expedition*, 35

<sup>206</sup> Palau Community Action Agency, *A History of Palau Volume One*, 2-3

<sup>207</sup> Kramer, *Ergebnisse der Sudsee-Expedition*, 34

## Fishing

The lagoon and ocean was the realm of men. Their knowledge of the complex currents, tides, channels and reefs, coupled with knowledge of the feeding, migration and breeding patterns of fish and other sea life was gleaned from generations of experience.<sup>208</sup> "The successful exploitation of this environment requires a vast knowledge of winds, currents the lunar cycle, fish habits and spawning locations and fishing techniques."<sup>209</sup> Customs and rituals were performed precisely to help assure successful fishing expeditions: the blessing of the ship, invocations and prayers, and offerings to the gods. Fishing techniques and skills included spear fishing, line fishing, net fishing and trapping.

## Building Construction

Because of the people's great reliance on the ocean for livelihood, the villages were normally built within access of the sea, yet not directly on the shore. Large sea walls of piers that were built out into the lagoon. Paths were constructed two feet above the level of the ground and perhaps ten feet wide.

The building of a bai was an "intricate, ritualistic procedure."<sup>210</sup> The master builder, *dachelbai*, who supervised the construction, had a spiritual and technical role. He invoked the favor of the gods from the felling of the first tree until the final exorcism of evil spirits.<sup>211</sup>

## Canoe Building.

George Keate wrote, "The smallest vessel that they built could hold four or five people, the largest were able to contain from twenty five to thirty."<sup>212</sup> "They were, like most other canoes, made from the trunk of a tree dubbed out."<sup>213</sup> "They were painted red, both within and without, and inlaid with shells in different

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<sup>208</sup> Palau Community Action Agency, *A History of Palau Volume One*, 19

<sup>209</sup> DeVerne Reed Smith, *Palau Ethnography Volume 2*, 13

<sup>210</sup> Palau Community Action Agency, *A History of Palau Volume One*, 14

<sup>211</sup> Telmetang and Adelbai, *Bai*, 5-6

<sup>212</sup> Keate, *An Account of the Pelew Islands*, 242

<sup>213</sup> Keate, *An Account of the Pelew Islands*, 241

forms.”<sup>214</sup> Many rituals were observed in the construction process of a new canoe. To ensure success precise observation of the phase of the moon, recognition of the spirits and recitation of the proper chants were employed.<sup>215</sup>

## Government

Traditionally, Palau was divided into many different geographic areas, *beluu*. Each *beluu* had its own government, administered by councils of ranking men and women. Karl Semper observed that, “women form their own societies, which have their leaders and possess all the rights of a recognized corporation in contrast to those of the men...”<sup>216</sup> That he did not understand why the women had their own clubs may reflect on his own culture heritage, but he did recognize that the “clubs for women have a recognized place in a state, whose rights correspond throughout with the clubs of the men.”<sup>217</sup> Ranking women had, and still have influential roles in the organization and management of agriculture, food preparation, marriage, birth, death and funerals.

The leadership structure of the men was an organized *klobak* council of ten *rubak*. The *rubak* were men of rank from within the *beluu* who had been selected from potential candidates by ranking women elders to preside over their *beluu*.<sup>218</sup> Rank was based on family background, but could be increased through competition and demonstrations of excellence in skills and abilities.

The *rubak* of the *klobak* were the executive, legislators and judiciary of their *beluu*. They established and disseminated policies for the administration and management of their *beluu*. The four highest ranking *rubak* were the four “cornerposts” of the *klobak*; they were the executive branch of their government. It was their responsibility to deliberate on the most confidential or sensitive political matters.

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<sup>214</sup> Keate, *An Account of the Pelew Islands*, 241

<sup>215</sup> Vitarelli and Rehuher, *Olechotel Belau*, 11

<sup>216</sup> Semper, *The Palau Islands in the Pacific Ocean*, 56

<sup>217</sup> Semper, *The Palau Islands in the Pacific Ocean*, 57

<sup>218</sup> Rechebei and McPhetres, *History of Palau*, 36

The legislative branch of the government consisted of the fifth to tenth *rubak*, and the judiciary consisted of all ten *rubak* divided into two half bai. When the judiciary deliberated, the defendant was represented by the half bai to which he was related.

Each *rubak* also had individual responsibilities within the *klobak*. The first *rubak* was responsible for the welfare of the community of his *beluu*, and presided over the *klobak* meetings. He was responsible for peace and the economy of the *beluu*. He was head of the half-bai when the bai was split. He rendered and received payments to repair internal relationships and relationships between *beluu*. He rendered payments for any damages for which the *beluu* was responsible

The second *rubak* was responsible for the implementation of decisions. He headed the other half bai when the bai was split. It was his responsibility to fulfill the first *rubak*'s duties should he be incapacitated or absent.

The third *rubak* was responsible for imposing penalties and fines on people found guilty of violating laws. He was the leader of the clubs within his half channel.

The fourth *rubak* was responsible for the supervision of food distribution and the lighting of the bai lamp. He was the spokesman for the *klobak* in the public bai. He was the leader of the clubs within his half channel.

The fifth *rubak* was responsible to notify and announce to the public all information and events.

The sixth *rubak* was responsible for enforcing the all the laws of the sea. It was his responsibility to monitor the condition of all the water craft and the boat house of the *beluu*.

The seventh *rubak* was responsible for overseeing and the accommodation of any visiting clubs from other *beluu*. He would ascertain where the visitors would be accommodated, the duration of their stay, their activities, and their contributions to the *beluu*. He was responsible for notifying the other *rubak* of the arrangements.

The eighth *rubak* was responsible for knowing the number of people visiting from other *beluu* and the purpose of their visit. It was his responsibility to ascertain whether their visit posed any threat to the *beluu*. He notified the other *rubak* through the seventh *rubak*

The ninth *rubak* was the eyes and ears of the *klobak* for all events within the *beluu*.

The tenth *rubak* was responsible for reconnaissance and reporting of war plans and strategies of other *beluu* to the *kebekuul*, through the seventh *rubak*.

## Henry Wilson

The men of the shipwrecked *Antelope* where the first men documented to arrive in Palau. The English attitude to social status and race may be illustrated by the crew list of the *Antelope*:

NAMES of the OFFICERS and MEN belonging to the *Antelope*.

|                       |   |
|-----------------------|---|
| Henry Wilson, Esq     | Commander   |
| Philip Benger,        | Chief Mate.   |
| Peter Barker,         | Second Mate.  |
| John Cummin,          | Third Mate.   |
| John Sharp,           | Surgeon.  |
| Arthur William Devis, | Passenger, who had a Taste for Drawing.   |
| John Blanch,          | Gunner.   |
| William Harvey,       | Boatswain.  |
| John Polkinghorn,     | Carpenter.  |
| John Meale,           | Cooper and Steward.   |
| Richard Jenkins,      | Carpenter's Mate.   |
| James Swift,          | Cook.   |
| Richard Sharp,        | Midshipman.   |
| Henry Wilson, jun.    | Captain's Son.  |
| John Wedgebrough,     | } Midshipmen; and Apprentices from Christ's Hospital.   |
| Robert White,         |   |
| Albert Pierson,       | Quarter Master.   |
| Godfrey Minks,        | Deputy Quarter Master.  |
| Thomas Dulton,        | Captains Steward.   |
| SEAMEN                |   |
| John Cooper.          |   |
| William Roberts.      |   |
| James Duncan.         |   |
| Matthias Wilson,      | Brother to the Captain.   |
| Nicholas Tyacke.      |   |
| James Bluit.          |   |
| Thomas Willson.       |   |
| William Stewart.      |   |
| Madan Blanchard,      | who deserted his Shipmates, chusing to remain with the naked but hospitable Natives of Pelew. |
| Thomas Whitefield.    |   |
| William Cobbledick.   |   |
| Zachariah Allen.      |   |
| Thomas Castles.       |   |
| Dedrick Windler.      |   |
| Thomas Rose,          | Linguist, a Native of Bengal, calling himself a Portuguese. <sup>219</sup>                    |

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<sup>219</sup> Barker, preface to *The Shipwreck of the Antelope*, vii - viii



The sixteen Chinese men who were hired to augment the ship's company are not acknowledged by name<sup>220</sup>.

Early in their stay in Palau, Captain Wilson sent "one of the China-men" in a delegation to Koror "that he might notice more particularly the produce of the country, and examine if there might not be vegetables good to eat which the natives overlooked, or did not attend to."<sup>221</sup> George Keate writes that "The Chinese are all tolerable botanists, and live principally on vegetables, so that turn a China-man in any spot, he would contrive to pick a meal for himself from it."<sup>222</sup> On his return the Chinese man reports "that this have very poor place, and very poor people; no got clothes, no got rice, no got hog, no got nothing, only yam, little fish, and cocoa-nut:"<sup>223</sup> and "no got nothing make trade, very little make eat."<sup>224</sup>

George Keate remarks that the Chinese man "viewed mankind with the eye of a Dutchman, only calculating what was to be got from them."<sup>225</sup> He flatters his reader by purporting that s/he "considers human nature, however unadorned, when dignified by virtuous simplicity, as one of the noblest objects of contemplation."<sup>226</sup>

## Traders

With the coming of the traders to Palau, the emphasis for work changed. Early in the 1800's Spanish traders sought beche-de-mer (holothuroidea - sea cucumber.)<sup>227</sup>

By mid 1800s, European traders were trading beche-de-mer with people in China willing to pay high prices for this delicacy. Shore facilities were required to process the catch. Local people were often hired to collect, clean, boil and smoke the trepang, under the supervision of the ship's crew. This introduced

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<sup>220</sup> Keate, *An Account of the Pelew Islands*, 65- 66

<sup>221</sup> Keate, *An Account of the Pelew Islands*, 115

<sup>222</sup> Keate, *An Account of the Pelew Islands*, 115

<sup>223</sup> Keate, *An Account of the Pelew Islands*, 117

<sup>224</sup> Keate, *An Account of the Pelew Islands*, 117

<sup>225</sup> Keate, *An Account of the Pelew Islands*, 117

<sup>226</sup> Keate, *An Account of the Pelew Islands*, 117

<sup>227</sup> Palau Community Action Agency, *A History of Palau Volume Two: Traders and Whalers, Spanish Administration, German Administration* (Koror: Palau Community Action Agency, 1976), 180

Western-style concepts of work to Palau. Instead of working to sustain their lifestyle, Palauans worked to produce goods for barter to enable the procurement foreign goods.

Merchant ships often stayed in villages and communities where they were working. They often built houses and grew vegetable. Their presence was an influence on their host communities. Local people no longer provided food as part of their usual hospitality, but began trading food to the traders. As more traders arrived, they dispersed to different localities around Palau enabling the traditional rivals of Koror to purchase munitions. This threatened the power of Koror and caused wars.

By the mid-1800s the Pacific region had been carved up into areas of influence; British, French, American, Spanish. Trader's brought with them the protection of their countries' navies and Palauans learned that traders had to be treated carefully because they could depend on the navy. The British Navy assisted Ibedul to punish his enemies in Ngebuked and destroy their processing facility.

In 1843, encouraged by the Ibedul of Koror, Andrew Cheyne established a beche-de-mer curing house at Malakal. Ibedul had promised that he would endeavor to collect a cargo for him.<sup>228</sup> Captain Somes of the Spanish Brig *Magallanes*, also moored at Malakal Island, had advised Andrew Cheyne that "small Manila vessels had visited these islands annually for these last ten years, and had often succeed in getting full cargoes of the slug"<sup>229</sup> and that "the islanders cured it themselves and sold it to them for European goods, at the rate of from 3 to 5 Spanish dollars per picul."<sup>230</sup>

The curing house built for Andrew Cheyne was "ninety feet long, twenty feet broad and ten feet high in the sides."<sup>231</sup> It was built using traditional Palauan construction methods "under the direction of the chiefs"<sup>232</sup>

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<sup>228</sup> Francis Hezel and M Berg, *Micronesia: Winds of Change: A Book of Readings on Micronesian History* (Saipan: Omnibus Program for Social Studies-Cultural Heritage, Trust Territory of the Pacific Islands, 1979), 203  
Dorothy Shineberg, ed., *The Trading Voyages of Andrew Cheyne 1841-1844* (Honolulu: University of Hawaii Press, 1971), 234

<sup>229</sup> Hezel and Berg, *Micronesia: Winds of Change*, 203

<sup>230</sup> Shineberg, *The Trading Voyages of Andrew Cheyne*, 234

<sup>231</sup> Shineberg, *The Trading Voyages of Andrew Cheyne*, 235

<sup>232</sup> Shineberg, *The Trading Voyages of Andrew Cheyne*, 235

The building frame was palm and pandanus trees and the roof was thatched “with pandanus leaves sewed to reeds and seized to the rafters.”<sup>233</sup>

After experimenting to find the best curing techniques Andrew Cheyne concluded that “beche-de-mer dried in the sun, fetches a higher price than those over a wood fire,”<sup>234</sup> but requires “fully twenty days to dry; whereas by smoking them, they are well cured in four days.”<sup>235</sup> but that the curing process “is so difficult, and requires so much experience, that none but those who have been for years engaged in the trade, would ever succeed in doing it.”<sup>236</sup> In May 1844 he bought the island of Malakal to prevent other traders from building curing houses there.

When he returned to Palau in 1865, Andrew Cheyne bought more than 10,000 acres of unoccupied land in Imeliik, Airai and Artingal. He bought the land in Imeliik for eleven muskets, in Airai for twelve muskets and the land in Artingal for twelve muskets. He understood the deep-seated desire of each district of Palau to rid itself of subordination to another district.<sup>237</sup> His intention was to grow cotton and other tropical cash crops. He planted sugar, coffee, bananas and indigo and advertised for Chinese laborers to work on his plantations.<sup>238</sup> Alfred Tetens, his associate, brought fifty Chinese workers and built up the plantation. The cotton grew well, but the Chinese did not adapt well to the Palauans; the project failed.

Eduard Hensheim bought land in Malakal in 1874 to set up Hensheim Company of Palau, a station for beche-de-mer.

It was accepted European practice that the first country to raise its flag in a new land had legal claim of the territory. The Spanish decided to formalize their claim to Palau as their territory, although Ibedul had already petitioned Britain to make Palau part of its empire. Germany and Spain petitioned Pope Leo XIII to arbitrate over who had the rights to the Carolines. In October 1885 he confirmed Spain’s rights over the

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<sup>233</sup> Shineberg, *The Trading Voyages of Andrew Cheyne*, 235

<sup>234</sup> Shineberg, *The Trading Voyages of Andrew Cheyne*, 198

<sup>235</sup> Shineberg, *The Trading Voyages of Andrew Cheyne*, 198

<sup>236</sup> Shineberg, *The Trading Voyages of Andrew Cheyne*, 199

<sup>237</sup> Palau Community Action Agency, *A History of Palau Volume Two*, 161

<sup>238</sup> Palau Community Action Agency, *A History of Palau Volume Two*, 155

Caorlines conditional that they establish an administration there. Germany received the rights to establish a naval station, a coaling station, plantations and agriculture projects.

Several Japanese companies were based in Malakal by 1892.<sup>239</sup> *Kaltsu Sha* and *Koshin Sha* traded in miscellaneous goods and purchased copra, sea-products and shells.<sup>240</sup> Japanese businessmen had a virtual monopoly of trade in Palau when the Germans took control.<sup>241</sup>

The first foreigners were welcomed, but, little by little, people became suspicious and somewhat ambivalent about them. On the one hand they sought the material good: the iron, tobacco and guns. But on the other hand they loathed the influence that led to the rise and tyranny of Koror.

Palau was decimated by the diseases brought in by ships and sailors and the disruptions of established village life.

### German Administration

In the early years of the German administration copra was the major export, supplemented with wood, trepang, tortoise-shell and mother-of-pearl.<sup>242</sup> The first stock of coconut palms arrived in Palau before April 1902, and by August 1904 about 40,000 young trees had been planted.<sup>243</sup> Although Palauans were reluctant to work the coconut plantations, they were assigned the responsibility of caring for the trees which were vulnerable to disease caused by insect pests.<sup>244</sup> Perhaps their reluctance was because they considered horticulture / agronomy as women's work. Police checked the coconut plantations every month and a person could be fined if his trees were found diseased.<sup>245</sup>

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<sup>239</sup> Palau Community Action Agency, *A History of Palau Volume Two*, 188

<sup>240</sup> Yanaihara, *Pacific Islands Under Japanese Mandate*, 25

<sup>241</sup> Palau Community Action Agency, *A History of Palau Volume Two*, 188

<sup>242</sup> Palau Community Action Agency, *A History of Palau Volume Two*, 203

<sup>243</sup> Palau Community Action Agency, *A History of Palau Volume Two*, 204

<sup>244</sup> Palau Community Action Agency, *A History of Palau Volume Two*, 204

<sup>245</sup> Palau Community Action Agency, *A History of Palau Volume Two*, 204

As copra production declined, many companies converted to trading pearl-shell and tortoise-shell. Although German officials restricted the number of foreigners in Palau to preserve the island trade for German companies, specially trained Japanese workmen were brought in for pearl shell fishing.<sup>246</sup>

Public works and infrastructure projects were developed and directed by German administration and fabricated by Palauan workers. In February 1905 a German Stationsleiter, serving as the official government representative, a doctor and a businessman arrived in Palau. A new station, consisting of a main building with several outhouses, was built at Koror harbor on land granted to the Germans by Ibedul.<sup>247</sup> Government buildings were also constructed on Babeldaob; houses were built for the government doctor in Melekeok and the Stationsleiter in Ngabuked.<sup>248</sup>

German officials recruited Palauan men for the police force.<sup>249</sup> The police force supervised the coconut plantations and carried out orders issued by the German officials. They implemented programs, initiated under the Spanish, that eliminated inter-village warfare, *klemengol* (institutionalized concubine) and limited the time for major feasts.<sup>250</sup> The policemen were required to live together for their schooling and to build morale.<sup>251</sup> To provide sufficient housing for all the policemen, two Koror bai were commandeered to serve as police barracks. One bai was relocated into German Koror town. [foot note - refer to Kramer]

Palauans learned of wage labor with the advent of capitalist enterprise backed by government authority. During the German administration the islanders were compelled to mine phosphate on Angaur.<sup>252</sup> The German South Seas Phosphate Stock Company was established in 1908. It was controlled by a syndicate of bankers in Bremen, Germany and opened in 1909.<sup>253</sup> The company employed 23 Europeans,

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<sup>246</sup> Palau Community Action Agency, *A History of Palau Volume Two*, 206

<sup>247</sup> Palau Community Action Agency, *A History of Palau Volume Two*, 198

<sup>248</sup> Palau Community Action Agency, *A History of Palau Volume Two*, 198

<sup>249</sup> Palau Community Action Agency, *A History of Palau Volume Two*, 198

<sup>250</sup> Palau Community Action Agency, *A History of Palau Volume Two*, 198

<sup>251</sup> Palau Community Action Agency, *A History of Palau Volume Two*, 198

<sup>252</sup> Yanaihara, *Pacific Islands Under Japanese Mandate*, 153

<sup>253</sup> Palau Community Action Agency, *A History of Palau Volume Two*, 208

55 Chinese craftsmen, 98 Yapese and 126 Central Carolinians.<sup>254</sup> The development included a railway, saw mill and repair shop, administration building, hospital, storehouses, an eating place, a building for social activities, 32 residences for Europeans and 11 barracks.<sup>255</sup>



Figure 67: Workers dug the phosphate out by hand, loading the carts that an engine carried to the plant for refining. from Micronesian Seminar Collection, The Era of Big Business (National Diet Library, Tokyo), Photo 12 [http://www.micsem.org/photos/big\\_bus/12.htm](http://www.micsem.org/photos/big_bus/12.htm) (accessed December 15, 2012)

“By 1913 the Phosphate Stock Company employed 10 Germans, 500 native workers from Palau and Yap and 100 skilled Chinese.”<sup>256</sup> Native workers were forced to work nine hours a day for a certain number of days per year.<sup>257</sup> They dug the phosphate manually, loading the carts that an engine carried to the plant for refining.<sup>258</sup> “Their pay was seventeen German marks a month.”<sup>259</sup>

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<sup>254</sup> Palau Community Action Agency, *A History of Palau Volume Two*, 208

<sup>255</sup> Palau Community Action Agency, *A History of Palau Volume Two*, 208

<sup>256</sup> Rechebei and McPhetres, *History of Palau*, 127

<sup>257</sup> Palau Community Action Agency, *A History of Palau Volume Two*’209

<sup>258</sup> Micronesian Seminar Collection, The Era of Big Business (National Diet Library, Tokyo), Photo 12 [http://www.micsem.org/photos/big\\_bus/12.htm](http://www.micsem.org/photos/big_bus/12.htm) (accessed December 15, 2012)

<sup>259</sup> Rechebei and McPhetres, *History of Palau*, 127

In 1909 the mining production in Angaur was 8,641 metric tons of phosphate, and 54,000 metric tons was extracted in 1912.<sup>260</sup> The increasing production necessitated additional facilities. From April 1911 to April 1913 two drying plants, where the phosphate was dried, were constructed, and a ship loading mechanism was erected.<sup>261</sup>

In Spanish times, copra and beche-de-mer were the currency to exchange for foreign goods. They were gradually replaced by German Mark for the purchase of foreign goods. With the increasing supply of Marks and foreign goods, acceptance of the new currency was inevitable. Palauan men who served the government or worked the mines acquired this foreign money.<sup>262</sup> “The result was a greater independence of the individual in what to do with his earnings and an increased desire for foreign goods.”<sup>263</sup> “This was the beginning of the foreign wage economy that has been used in Palau down to the present day.”<sup>264</sup>

Palauan elders, who had always held clan and family money, retained this responsibility. They relied on the younger clan and family members to purchase foreign goods, and Palauan money was used exclusively in social customs.<sup>265</sup> The foreign currency and goods played significant roles in changing patterns of obligations for customary community practices. Kramer’s impression was, “The greed for money has had a bad influence, for it causes greed, and ingratitude, the striving for rank and titles;”<sup>266</sup>

### Japanese Administration

When Japan acquired Palau after the First World War, under the agreement signed by the League of Nations, it was mandated to “promote to the utmost the material and moral well-being and social progress of the inhabitants of the territory.”<sup>267</sup> Japan intended to develop the islands economically and create a territory for Japanese nationals to colonize to relieve the population pressure in Japan. “The goals of the island

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<sup>260</sup> Palau Community Action Agency, *A History of Palau Volume Two*, 212

<sup>261</sup> Palau Community Action Agency, *A History of Palau Volume Two*, 209

<sup>262</sup> Palau Community Action Agency, *A History of Palau Volume Two*, 213

<sup>263</sup> Palau Community Action Agency, *A History of Palau Volume Two*, 213

<sup>264</sup> Palau Community Action Agency, *A History of Palau Volume Two*, 212

<sup>265</sup> Palau Community Action Agency, *A History of Palau Volume Two*, 213

<sup>266</sup> Rechebei and McPhetres, *History of Palau*, 137

<sup>267</sup> Palau Community Action Agency, *A History of Palau Volume Three*, 285



economy were the enrichment of Japanese companies and appropriation of the land and resources of Palau.”<sup>268</sup>

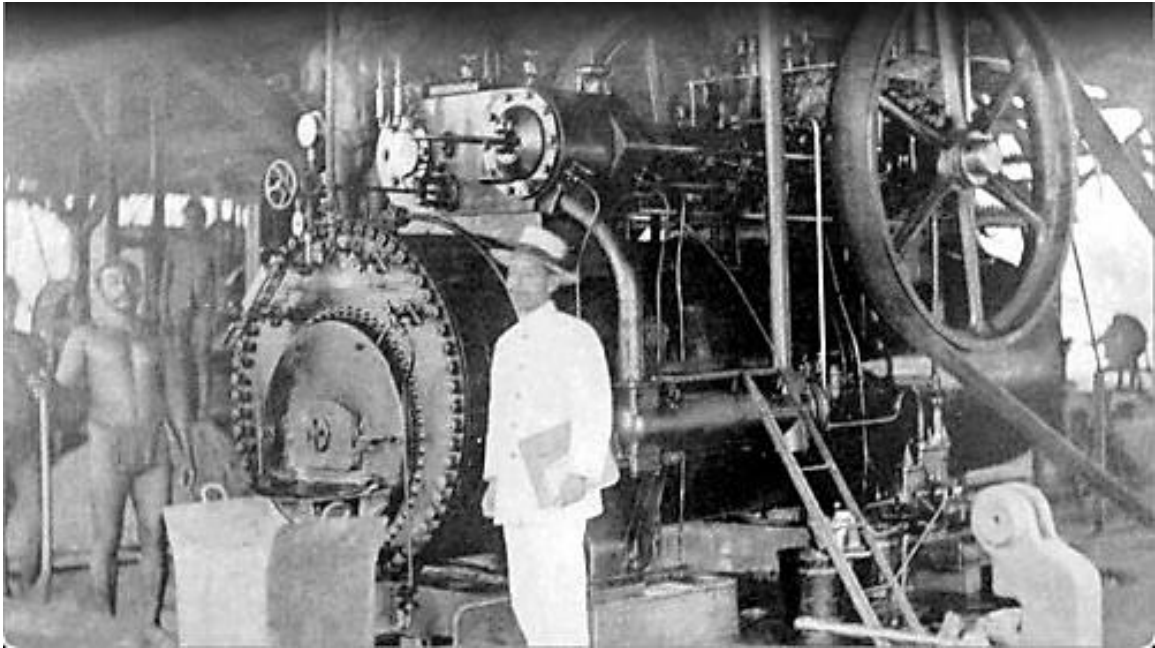


Figure 68: Japanese official stands in front of one of the furnaces used in the refining of the phosphate. from Micronesian Seminar Collection, The Era of Big Business (Yoji Yamaguchi Collection), Photo 14 [http://www.micsem.org/photos/big\\_bus/14.htm](http://www.micsem.org/photos/big_bus/14.htm) (accessed December 15, 2012)

Phosphate and copra production were the only two industries employing native labor.<sup>269</sup> “Labour is recruited by the local office of the government through the village headman on the instruction of the mining authorities as to the number of labourers required.”<sup>270</sup> “Remuneration for service consists of three meals a day in addition to money”<sup>271</sup> The provision of food as portion of the wages was a deliberate progressive “transition from the natural economy of the islanders to an economy based on monetary exchange.”<sup>272</sup> Their diet included rice, bread, corned beef, tinned salmon and sardines.<sup>273</sup>

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<sup>268</sup> Palau Community Action Agency, *A History of Palau Volume Three*, 343

<sup>269</sup> Yanaihara, *Pacific Islands Under Japanese Mandate*, 52

<sup>270</sup> Yanaihara, *Pacific Islands Under Japanese Mandate*, 62

<sup>271</sup> Yanaihara, *Pacific Islands Under Japanese Mandate*, 62

<sup>272</sup> Yanaihara, *Pacific Islands Under Japanese Mandate*, 63

<sup>273</sup> Yanaihara, *Pacific Islands Under Japanese Mandate*, 62

Daily Wages by Ethnic Group in 1922 and 1930. (In Japanese Yen)

| Nationality | Year |      |
|-------------|------|------|
|             | 1922 | 1930 |
| Japanese    | 6.50 | 5.70 |
| Chinese     | 4.00 | 2.30 |
| Chamorros   | 2.50 | 2.70 |
| Carolinians | 1.50 | 1.20 |

(Source: Purcell 1976)

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By the late 1930s over 100,000 tons of phosphate a year was being produced <sup>275</sup>

The police force superintendent was an appointed Japanese official. His inspectors and assistant inspectors were recruited from Japanese men living in the islands. "Japanese patrolmen were called junsa and island patrolmen junkei."<sup>276</sup> The junkei worked eight hour days, seven days a week, with five days off every month. Patrolmen police duties included "investigation of crimes, pursuit of criminals, public health and fire control."<sup>277</sup> Not until late 1929 were the junkei permitted to handle cases involving Japanese citizens. Pay raises were awarded for long or commendable service, and "cash awards, usually from fifty to one hundred yen, for catching criminals, saving a life, or meritorious service."<sup>278</sup>

In 1923, the experimental station for agriculture in Palau was established on a 245 acre tract of land in Imeliik and Ngetpang.<sup>279</sup> Its research included "experiments on the fitness and variety of garden crops, the cultivation of crops, geological investigations, experiments with fertilizers, the prevention of disease to crops,

<sup>274</sup> Rechebei, and McPhetres, *History of Palau*, 170

<sup>275</sup> Micronesian Seminar Collection, The Era of Big Business (Yoji Yamaguchi Collection), Photo 16 [http://www.micsem.org/photos/big\\_bus/16.htm](http://www.micsem.org/photos/big_bus/16.htm) (accessed December 15, 2012)

<sup>276</sup> Palau Community Action Agency, *A History of Palau Volume Three*, 313

<sup>277</sup> Palau Community Action Agency, *A History of Palau Volume Three*, 314

<sup>278</sup> Palau Community Action Agency, *A History of Palau Volume Three*, 314

<sup>279</sup> Palau Community Action Agency, *A History of Palau Volume Three*, 336

the eradication of noxious insects from crops.”<sup>280</sup> From its research into the manufacture of agricultural products such as tapioca and canned pineapples, new industries developed.<sup>281</sup>

From 1927, Imeliik was used for experiments in forestation. They planted a seedling beds and by 1931, 16,258 trees had been planted. <sup>282</sup> By 1935, nineteen varieties of trees were growing. Experiments in forestry included extracting tannin from different species, preventing lumber decay and determining the best uses for lumber from trees grown in Japan and Palau.<sup>283</sup>

The second station was opened in Palau in 1930 for research on fruit tree cultivation. During 1930, the station employed a number of Palauans at different times. For building construction, 191 men and two women were employed. For land reclamation or digging up and preparing forest and grassland for farming, 420 men and seven women were employed. For the cultivation of crops, 1046 men and 333 women and for raising livestock, 242 men and 109 women were employed.<sup>284</sup>

New industries established in Palau by the Japanese formed eighty percent of Palau’s export trade.<sup>285</sup>. The Japanese government did not “need to exploit native labour” and “has been able to carry on its economic activities with little dependence on native labour.”<sup>286</sup> Because the new industries of pineapple, alcohol and dried bonito employed only Japanese labor, there were no native labor problems in their production.<sup>287</sup>. There were pineapple canneries at Ngarameskang, Ngchesar and Airaj.<sup>288</sup>

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<sup>280</sup> Palau Community Action Agency, *A History of Palau Volume Three*, 336

<sup>281</sup> Palau Community Action Agency, *A History of Palau Volume Three*, 336

<sup>282</sup> Palau Community Action Agency, *A History of Palau Volume Three*, 337

<sup>283</sup> Palau Community Action Agency, *A History of Palau Volume Three*, 337

<sup>284</sup> Palau Community Action Agency, *A History of Palau Volume Three*, 337

<sup>285</sup> Yanaihara, *Pacific Islands Under Japanese Mandate*, 52

<sup>286</sup> Yanaihara, *Pacific Islands Under Japanese Mandate*, 304

<sup>287</sup> Yanaihara, *Pacific Islands Under Japanese Mandate*, 52

<sup>288</sup> Palau Community Action Agency, *A History of Palau Volume Three*, 388



Figure 69: Pineapple plantation in Ngeremlengui, Palau.  
Minoru Ueki Collection  
[http://www.micsem.org/photos/big\\_bus/27.htm](http://www.micsem.org/photos/big_bus/27.htm)



Figure 70: Cannery built in Palau to market the rich pineapple yield in Babeldaob  
 from Micronesian Seminar Collection, The Era of Big Business (Minoru Ueki Collection) Photo 28  
[http://www.micsem.org/photos/big\\_bus/28.htm](http://www.micsem.org/photos/big_bus/28.htm) (accessed December 15, 2012)

Principal exports from Palau between 1924 and 1931 included dried bonito, dried trepang (beche-de-mer), dried tunny, copra, trochus, plaited/woven baskets, and charcoal.<sup>289</sup> Small industries included pineapples from Ngetpang and Ngchesar, canned fish from Koror, perfume, cocoa, pottery from Ngetpang, and bauxite from Ngerdmau.<sup>290</sup>

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<sup>289</sup> Palau Community Action Agency, *A History of Palau Volume Three*, 344 - 345

<sup>290</sup> Palau Community Action Agency, *A History of Palau Volume Three*, 345

Commercial fishing in Palau centered on bonito, and many Okinawan fishermen were employed. The bonito was processed before being exported to Japan, for use as flavoring for soups.<sup>291</sup> By the late 1930s katsuobushi exports were bringing in more than 5 million yen a year.<sup>292</sup>



Figure 71: Nanyo Kohatsu Kaisha Katsuobushi processing factory, (dried, fermented, and smoked skipjack tuna), Malakal 1934 from Micronesian Seminar Collection, The Era of Big Business (Minoru Ueki Collection), Photo 22 [http://www.micsem.org/photos/big\\_bus/22.htm](http://www.micsem.org/photos/big_bus/22.htm) (accessed December 15, 2012)

and from Palau Community Action Agency, *A History of Palau Volume Three: Japanese Administration, U.S. Naval Military Government*. (Koror: Palau Community Action Agency, 1978), 343

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<sup>291</sup> Palau Community Action Agency, *A History of Palau Volume Three*, 342

<sup>292</sup> Micronesian Seminar Collection, The Era of Big Business (Minoru Ueki Collection), Photo 22 [http://www.micsem.org/photos/big\\_bus/22.htm](http://www.micsem.org/photos/big_bus/22.htm) (accessed December 15, 2012)

A Fisheries Experiment station was established in Koror in May 1931.<sup>293</sup> Cultured pearls were raised close to Malakal island.<sup>294</sup> Japanese experts impregnated the oysters and Japanese divers retrieved the oysters for harvesting of the pearls.



Figure 72: Examining trays of seeded oysters at the pearl nursery between the tip of Koror and Malakal.  
from Micronesian Seminar Collection, The Era of Big Business (William Pesch Collection) Photo 24  
[http://www.micsem.org/photos/big\\_bus/24.htm](http://www.micsem.org/photos/big_bus/24.htm) (accessed December 15, 2012)

The conscription of labor in all villages for a variety of government jobs brought about a new club system. Traditional cheldebechel were replaced by age-grade clubs, whose members were required to perform certain duties. Young Palauan men from the ages of fifteen to thirty four belonged to Seinen Dan. They worked outside their home villages. Men from the ages of thirty five to fifty five still belonged to

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<sup>293</sup> Palau Community Action Agency, *A History of Palau Volume Three*, 341

<sup>294</sup> Palau Community Action Agency, *A History of Palau Volume Three*, 342



cheldebechel. These older men did public work required to be done in their villages. The women had clubs of their own. Young women belonged to Joshi Chunen Dan and middle aged women to Chunen Dan.<sup>295</sup> Palauans had virtually been reduced to providing cheap labor for the Japanese, and most had not been able to save much money. There had been, for the most part, a subsistence economy among Palauans before the war, just as Naval authorities in Washington believed in 1944 and 1945.<sup>296</sup>

Since the Japanese did not allow many Palauans to benefit from economic development, few had had business experience before the war. Palauans had virtually been reduced to providing cheap labor for the Japanese, and most had not been able to save much money. There had been, for the most part, a subsistence economy among Palauans before the war, just as Naval authorities in Washington believed in 1944 and 1945. It was only the Japanese and Far Easterners in Palau who enjoyed the “unrealistic” pre-war economy.<sup>297</sup>

After the Second World War, handicrafts were developed, especially the legendary Palauan storyboards. These were sold primarily to American military government personnel. Wages for skilled men ranged from forty cents a day plus food, to fifteen cents a day for an unskilled woman. Some people were hired directly by the military. Some made money by selling fresh fruits, fish and handicrafts to the military. In 1946, sixty five teachers were paid by the military government of Palau

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<sup>295</sup> Palau Community Action Agency, *A History of Palau Volume Three*, 363

<sup>296</sup> Palau Community Action Agency, *A History of Palau Volume Three*, 474

<sup>297</sup> Palau Community Action Agency, *A History of Palau Volume Three*, 474

## Work in Contemporary Palau

Population statistics are generally compiled and disseminated every 5 years. This document uses the census conducted in April 2005. Although Palau missed the 2010 census because budget funding was unavailable, a mini-census was conducted in December 2012.

In 2005, 72.5 percent of 19,907 Palau's population was Palauan.<sup>298</sup> In 2005, of the 14,755 people in Palau over the age of 16, 9,520 of them were Palauan. Of those 14,755 people, 9,777 were employed in the labor force and 426 were unemployed. 5,412 of the 9,777 employed people were Palauan, and the remaining were foreign workers.<sup>299</sup> Palauan men and women constituted sixty five percent of the population over the age of 16, and fifty five percent of Palau's employed labor force. Foreign workers constituted thirty five percent of the population over the age of 16, and the forty five percent of the labor force.

The foreign workers were from North America, Asia, Europe, Oceania, Africa, the Middle East, and Latin America.<sup>300</sup> Asian workers constituted forty one percent of the employed labor force, and people of other ethnicities were four percent of the employed labor force. Asian foreign workers with work permits included people from Bangladesh, China, India, Indonesia, Japan, Korea, Malaysia, Myanmar, Nepal, Philippines, Taiwan and Thailand.<sup>301</sup> The majority of the Asian workers were from the Philippines: 72% of the Asian workers were Filipino, 7.7% were Vietnamese, 6.5% were Chinese, 1.4% were Taiwanese, and 1.2% were Korean.<sup>302</sup> Men and women from the Philippines constituted the largest contingent of foreign workers: twenty one percent of Palau's population and thirty percent of the employed labor force.

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<sup>298</sup> Republic of Palau, *2005 Census*, 13

<sup>299</sup> Republic of Palau, *2005 Census*, 144

<sup>300</sup> Bureau of Budget and Planning *2012 Statistical Yearbook of the Republic of Palau* (Koror: Ministry of Finance, 2012), 46

<sup>301</sup> Bureau of Budget and Planning, *2012 Statistical Yearbook*, 46

<sup>302</sup> Republic of Palau, *2005*, 144

The influx of foreign workers has introduced a diversity of culture, ethnicity, language and ways of life.<sup>303</sup> The large numbers of foreign workers is concerning Palauans, who are beginning to feel crowded and alienated in their own islands.<sup>304</sup>

| Labor Force in Palau      |        |     |       |     |         |     | Palauan           |     |       |     |         |     |
|---------------------------|--------|-----|-------|-----|---------|-----|-------------------|-----|-------|-----|---------|-----|
| Labor Force Status        | Total  |     | Males |     | Females |     | Total             |     | Males |     | Females |     |
| Adults; 16 years and over | 14,755 |     | 8,076 |     | 6,679   |     | 9,748             |     | 4,936 |     | 4,812   |     |
| The Labor Force           | 10,203 |     | 6,214 |     | 3,989   |     | 5,781             |     | 3,292 |     | 2,489   |     |
| Employed / Unemployed     | 9,777  | 426 | 5,982 | 232 | 3,795   | 194 | 5,412             | 369 | 3,092 | 200 | 2,320   | 169 |
| Not in the Labor Force    | 4,552  |     | 1,862 |     | 2,690   |     | 3,967             |     | 1,644 |     | 2,323   |     |
|                           |        |     |       |     |         |     | Filipino          |     |       |     |         |     |
|                           |        |     |       |     |         |     | 3,055             |     | 1,765 |     | 1,290   |     |
|                           |        |     |       |     |         |     | 2,910             |     | 1,726 |     | 1,184   |     |
|                           |        |     |       |     |         |     | 2,899             | 11  | 1,724 | 2   | 1,175   | 9   |
|                           |        |     |       |     |         |     | 145               |     | 39    |     | 106     |     |
|                           |        |     |       |     |         |     | Other Ethnicities |     |       |     |         |     |
|                           |        |     |       |     |         |     | Total             |     | Males |     | Females |     |
|                           |        |     |       |     |         |     | 1,952             |     | 1,375 |     | 577     |     |
|                           |        |     |       |     |         |     | 1,512             |     | 1,196 |     | 316     |     |
|                           |        |     |       |     |         |     | 1,466             | 46  | 1,166 | 30  | 300     | 1   |
|                           |        |     |       |     |         |     | 440               |     | 179   |     | 261     |     |

Figure 73: Labor Force Participation: 2005  
from *2005 Census of Population and Housing of the Republic of Palau: Volume 1 Basic Tables*, Table 95, 144

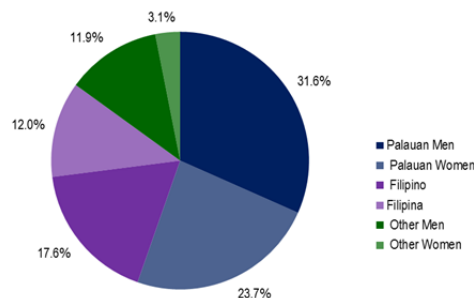


Figure 74: Labor Force Characteristics by Ethnicity, Palau: 2005: Employment Comparison  
from *2005 Census of Population and Housing of the Republic of Palau: Volume 1 Basic Tables*, Table 95, 144

<sup>303</sup> Sandra Pierantozzi, "Palauans and Guest Workers: An Opinion Paper," in *The Contemporary Pacific*, Volume 12 (2000): 350

<sup>304</sup> Pierantozzi, "Palauans and Guest Workers": 349

The *2005 Census of Population and Housing of the Republic of Palau* divided the employment statistics into various classifications. Workers were categorized into the classes of: Private for wage and salary workers, National Government workers, State government workers, US or other government workers, self-employed workers, and unpaid family workers.<sup>305</sup> Sixty percent of the people employed in the work force were wage and salary workers, thirty five percent were government workers, five percent were self-employed. This writer ignores the consideration of the small percentage of unpaid family workers (0.1%).

Of Palau's 5,849 wage and salary workers, 1,846 were Palauan and 2,792 were Filipino.<sup>306</sup> Palauan people constituted thirty two percent of Palau's wage and salary workers. People from the Philippines constituted forty eight percent of Palau's wage and salary workers, and the remaining twenty percent was comprised of people of other ethnicities. Of Palau's 3,389 government workers, 3,075 were Palauan and 61 were Filipino.<sup>307</sup> Palauan people constituted ninety two percent of the government workers in Palau. People from the Philippines constituted four percent of the government workers in Palau, and the remaining four percent was comprised of people of other ethnicities. Of Palau's 529 self-employed workers, 488 were Palauan and 20 were Filipino.<sup>308</sup> Palauan people constituted ninety one percent of Palau's self-employed workers. People from the Philippines constituted two percent of Palau's self-employed workers, and the remaining seven percent was comprised of people of other ethnicities.

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<sup>305</sup> Republic of Palau, *2005 Census*, 146

<sup>306</sup> Republic of Palau, *2005 Census*, 146

<sup>307</sup> Republic of Palau, *2005 Census*, 146

<sup>308</sup> Republic of Palau, *2005 Census*, 146

| Class of Worker                 | Total | Palauan | Filipino | Other Ethnicities |
|---------------------------------|-------|---------|----------|-------------------|
| Employed persons 16 and over    | 9777  | 5412    | 2899     | 1466              |
| Private wage and salary workers | 5849  | 1846    | 2792     | 1211              |
| National Government workers     | 2322  | 2180    | 33       | 109               |
| State government workers        | 714   | 603     | 40       | 71                |
| US and other government workers | 352   | 292     | 12       | 48                |
| Self-employed workers           | 529   | 488     | 20       | 21                |
| Unpaid family workers           | 11    | 3       | 2        | 6                 |

Figure 75: Class of Worker by Ethnicity  
from 2005 Census of Population and Housing of the Republic of Palau: Volume 1 Basic Tables, Tables 97, 146

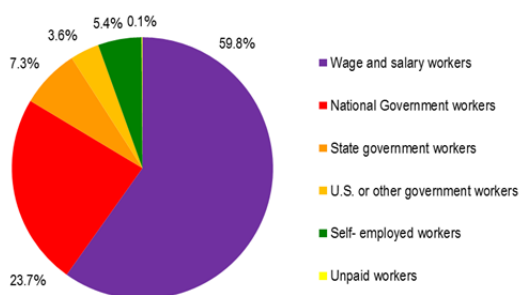


Figure 76: Class of Workers, Palau: 2005  
from 2005 Census of Population and Housing of the Republic of Palau: Volume 1 Basic Tables, Table 97, 146

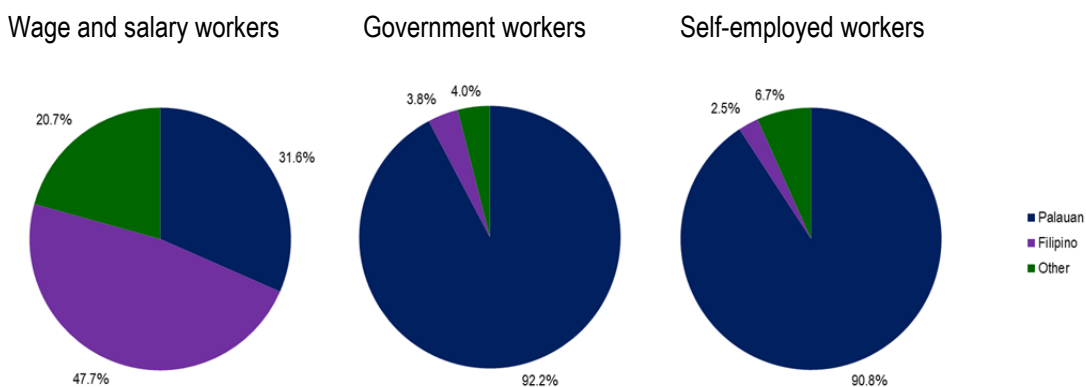


Figure 77: Class of Worker by Ethnicity, Palau: 2005  
from 2005 Census of Population and Housing of the Republic of Palau: Volume 1 Basic Tables, Table 97, 146

Of Palau's 1,466 people working in Professional and related services, 1,112 people were government workers.<sup>309</sup> Of Palau's 1,466 people working in Professional and related services, 1,218 were Palauan.<sup>310</sup>

Seventy six percent of the people in Palau working in Professional and related services were government workers. Eighty three percent of the people working in Professional and related services were Palauan.

Of Palau's 1734 people working in Public administration, 1,693 people were government workers.<sup>311</sup> Of Palau's 1734 people working in Public administration, 1,585 were Palauan.<sup>312</sup> Ninety eight percent of the people in Palau working in Public administration were government workers. Ninety one percent of the people working in in Public administration were Palauan.

| Class of Worker                 | Total | Agriculture, forestry, & fisheries | Mining and construction | Manufacturing | Transportation, communications & public utilities | Wholesale trade |
|---------------------------------|-------|------------------------------------|-------------------------|---------------|---|-----------------|
| Employed persons 16 and over    | 9777  | 761                                | 1399                    | 225           | 769   | 37              |
| Private wage and salary workers | 5849  | 415                                | 1315                    | 100           | 490   | 37              |
| National Government workers     | 2322  | 30                                 | 62                      | 5             | 167   | -               |
| State government workers        | 714   | 29                                 | 14                      | 1             | 17  | -               |
| US and other government workers | 352   | 9                                  | 2                       | 2             | 76  | -               |
| Self-employed workers           | 529   | 278                                | 6                       | 117           | 19  | -               |
| Unpaid family workers           | 11    | -                                  | -                       | -             | -   | -               |

|                                 | Retail trade | Finance, insurance & real estate | Business & repair services | Personal, entertainment, & recreational services | Professional & related services | Public administration |
|---------------------------------|--------------|----------------------------------|----------------------------|--|---------------------------------|-----------------------|
| Employed persons 16 and over    | 1633         | 132                              | 50                         | 1184   | 1466                            | 1734                  |
| Private wage and salary workers | 1595         | 113                              | 18                         | 1088   | 333                             | 39                    |
| National Government workers     | 8            | 14                               | 6                          | 44   | 897                             | 1065                  |
| State government workers        | 1            | -                                | 1                          | 3  | 33                              | 587                   |
| US and other government workers | 2            | 1                                | 22                         | 13   | 182                             | 41                    |
| Self-employed workers           | 24           | 4                                | -                          | 33   | 21                              | -                     |
| Unpaid family workers           | 3            | -                                | 3                          | 3  |                                 | 2                     |

Figure 78: Class of Worker by Industry  
from *2005 Census of Population and Housing of the Republic of Palau: Volume 1 Basic Tables*, Table 133, 185 – 186

<sup>309</sup> Republic of Palau, *2005 Census*, 185 - 186

<sup>310</sup> Republic of Palau, *2005 Census*, 146

<sup>311</sup> Republic of Palau, *2005 Census*, 185 - 186

<sup>312</sup> Republic of Palau, *2005 Census*, 146

When considering labor force characteristics within occupations, preferences by ethnicity within may be observed. Of Palau's 736 workers employed in the construction trades, 189 were Palauan, 437 were Filipino and 110 were Other Ethnicities.<sup>313</sup> Twenty six percent of the workers employed in the construction trades were Palauan, and fifty nine percent were Filipino. Within the construction trades, a range of industries are identified.

|                                      | Labor Force in Palau |      |        | Palauan |        | Filipino |        | Other ethnicities |        |
|--------------------------------------|----------------------|------|--------|---------|--------|----------|--------|-------------------|--------|
|                                      | Total                | Male | Female | Male    | Female | Male     | Female | Male              | Female |
| Persons 16 and over                  | 9777                 | 5982 | 3795   | 1805    | 2320   | 1714     | 1175   | 2463              | 300    |
| Construction trades                  | 736                  | 718  | 18     | 182     | 7      | 430      | 7      | 106               | 4      |
| Private household                    | 825                  | 243  | 582    | 4       | 13     | 198      | 559    | 41                | 10     |
| Teachers, librarians, and counselors | 644                  | 219  | 425    | 166     | 359    | 26       | 27     | 27                | 39     |

Figure 79: Occupation by Ethnicity  
from *2005 Census of Population and Housing of the Republic of Palau: Volume 1 Basic Tables*, Table 96, 145

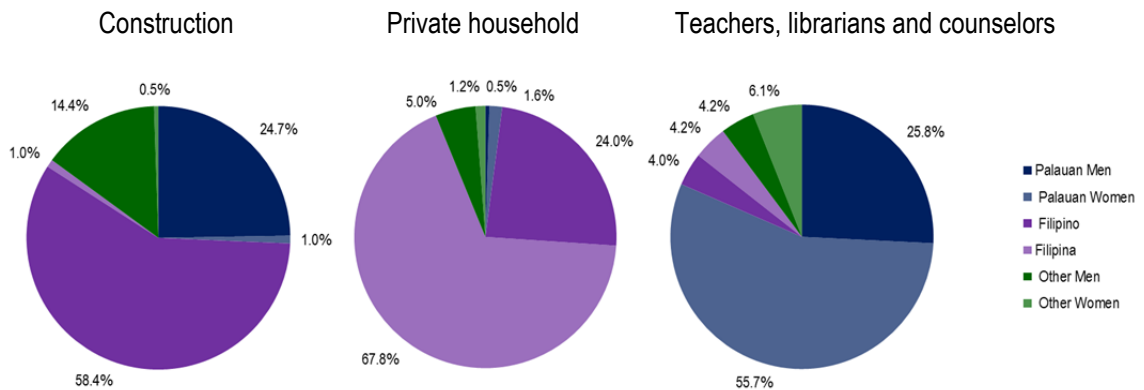


Figure 80: Occupation by Ethnicity, Palau: 2005  
from Data from *2005 Census of Population and Housing of the Republic of Palau: Volume 1 Basic Tables*, Table 96, 145

<sup>313</sup> Republic of Palau, *2005 Census*, 145



Of Palau's 644 workers employed as Teachers, librarians, and counselors, 525 were Palauan, 53 were Filipino and 66 were Other Ethnicities. Included among the Other Ethnicities were 12 Carolinians and 14 Other Micronesians.<sup>314</sup>

Of Palau's 825 workers employed within Private households, 17 were Palauan, 757 were Filipino, and 51 were Other Ethnicities.<sup>315</sup> Two percent were Palauan and almost ninety two percent were Filipino.

### Domestic workers

Domestic workers from the Philippines have helped contribute to the growing number of Palauan women joining the workforce and augmenting family incomes. They do the housekeeping chores, cooking, baby-sitting and other domestic work, freeing Palauan women to pursue individual careers and become financially independent.<sup>316</sup> The detriment to Palauan society and culture by employing domestic helpers may outweigh the personal benefits. Many Filipino housekeepers and child care givers are unable to speak Palauan. Language comprises a people's historical and cultural background, and their approach to life and their ways of living and thinking<sup>317</sup> Because language reflects culture and is influenced and shaped by it, children who grow up without learning to speak their own language, grow up without learning their culture. As childhood is when the greatest learning occurs, it is important that children learn their language and culture to sustain their people's lifeways.

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<sup>314</sup> Republic of Palau, *2005 Census*, 145

<sup>315</sup> Republic of Palau, *2005 Census*, 145

<sup>316</sup> Pierantozzi, "Palauans and Guest Workers": 350

<sup>317</sup> Wenying Jiang, "The relationship between culture and language." *ELT Journal Volume 54, Issue 4* (2000): 328  
<http://eltj.oxfordjournals.org/> at Serials Department, University of Hawaii at Manoa Library, September 2013

| Occupation                           | Total | Agriculture,<br>forestry, &<br>fisheries | Mining and<br>construction | Manufacturing | Transportation,<br>communication<br>& public utilities | Wholesale<br>trade |
|--------------------------------------|-------|--|----------------------------|---------------|--|--------------------|
| Construction trades                  | 736   | 6  | 504                        | 68            | 29   | -                  |
| Private household                    | 825   | -  | 2                          | -             | 2  | -                  |
| Teachers, librarians, and counselors | 644   | -  | -                          | -             | 2  | -                  |

|                                      | Retail trade | Finance,<br>insurance &<br>real estate | Business &<br>repair services | Personal,<br>entertainment,<br>& recreational<br>services | Professional &<br>related services | Public<br>administration |
|--------------------------------------|--------------|--|-------------------------------|---|------------------------------------|--------------------------|
| Construction trades                  | 30           | -                                      | -                             | 18  | 23                                 | 35                       |
| Private household                    | 9            | -                                      | -                             | 802   | 5                                  | 4                        |
| Teachers, librarians, and counselors | 24           | -                                      | 3                             | 13  | 564                                | 37                       |

Figure 81: Occupation by Industry  
from *2005 Census of Population and Housing of the Republic of Palau: Volume 1 Basic Tables, Table 108, 157*

### Occupation By Educational Attainment

|                                      |       |      |        | less than<br>5th grade |        | 5th to 8th<br>grade |        | 9th to 12th<br>grade |        | High school<br>grad or GED |        |
|--------------------------------------|-------|------|--------|------------------------|--------|---------------------|--------|----------------------|--------|----------------------------|--------|
|                                      | Total | Male | Female | Male                   | Female | Male                | Female | Male                 | Female | Male                       | Female |
| Persons 16 and over                  | 9777  | 5982 | 3795   | 118                    | 87     | 413                 | 178    | 909                  | 441    | 2898                       | 1669   |
| Construction trades                  | 736   | 718  | 18     | 18                     | 0      | 78                  | 1      | 132                  | 2      | 392                        | 6      |
| Private household                    | 825   | 243  | 582    | 18                     | 19     | 14                  | 32     | 41                   | 108    | 150                        | 385    |
| Teachers, librarians, and counselors | 644   | 219  | 425    | 0                      | 1      | 4                   | 3      | 3                    | 17     | 49                         | 91     |

|                                      | Some college<br>no degree |        | College          |        |          |        |                   |        | Professional<br>degree or grad |        |
|--------------------------------------|---------------------------|--------|------------------|--------|----------|--------|-------------------|--------|--------------------------------|--------|
|                                      |                           |        | Associate degree |        |          |        | Bachelor's degree |        |                                |        |
|                                      |                           |        | Occupational     |        | Academic |        |                   |        |                                |        |
|                                      | Male                      | Female | Male             | Female | Male     | Female | Male              | Female | Male                           | Female |
| Persons 16 and over                  | 605                       | 506    | 298              | 161    | 402      | 107    | 412               | 365    | 126                            | 82     |
| Construction trades                  | 35                        | 3      | 29               | 0      | 19       | 2      | 13                | 4      | 2                              | 0      |
| Private household                    | 11                        | 23     | 2                | 2      | 5        | 6      | 2                 | 7      | 0                              | 0      |
| Teachers, librarians, and counselors | 37                        | 88     | 21               | 29     | 25       | 68     | 59                | 108    | 21                             | 20     |

Figure 82: Occupation by Educational Attainment  
from *2005 Census of Population and Housing of the Republic of Palau: Volume 1 Basic Tables, Table 108, 157*

In 2005, fifty four percent of the workers employed in the construction industry in Palau were high school graduates or had passed a General Educational Development test (GED), and received a high school equivalency diploma. Thirty one percent of the workers had lower than high school academic

qualifications. Five percent of the workers employed in the construction industry had some college education and nine percent were College and University graduates

### The Value of Work

Concerns have been expressed among Palauans that the growing number of guest workers are taking their jobs from them. The construction industry in Palau has expanded to furnish accommodation for the growing tourist industry. However, the Sea Passion multi-story hotel was constructed with labor from China; the workers were brought to Palau on short term contracts for masonry, carpentry, electrical and plumbing.

From data in the 2005 census, the majority of construction workers in Palau were Filipino.<sup>318</sup> The majority of construction workers' highest qualification is their high school diploma.<sup>319</sup> Many Palauans perceive manual work in the construction industry as demeaning. They aspire to professional, management and administrative roles. The new Architectural Technology Program was designed to help prepare students for design, professional, management and administrative roles

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<sup>318</sup> Republic of Palau, *2005 Census*, 145

<sup>319</sup> Republic of Palau, *2005 Census*, 157

## Chapter 7: Education In Palau

### Introduction

This chapter provides an overview of the written history of education. Much of the evidence comes from observations by early visitors to Palau of the inquisitive nature of native Palauans.

### Traditional Education in Palau

Traditionally, the education of Palauan children took place in private homes<sup>320</sup> Children were taught by their parents “and encouraged to perform small tasks assigned to them”<sup>321</sup> They learned necessary basic skills through explanation, observation and imitation of their parents and family. Children also learned from their parents’ lived example the customary ways to display respect for their clan (keblill), village (beluu) and (buai) in general.<sup>322</sup> Story-telling was another teaching technique used by elders.<sup>323</sup> Legends and stories with moral lessons were narrated. Children learned their responsibility to the family, the clan and society through the accomplishment of small duties they were assigned. These tasks enabled them to acquire life skills.

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<sup>320</sup> Palau Society of Historians and Bureau of Arts and Culture, *Traditional Education System of Palau*. (Koror: Bureau of Arts and Culture, 2006), 4.

<sup>321</sup> Palau Historians, *Traditional Education*, 3.

<sup>322</sup> Palau Historians, *Traditional Education*, 5.

<sup>323</sup> Palau Historians, *Traditional Education*, 20.

The fundamental principles and components of traditional education in Palau were:

|  |   |  |
|--|---|--|
| Omengull                                     | - | Respect  |
| Ngerachel                                    | - | Responsibility   |
| Omengerker                                   | - | Occupation   |
| Blekongesenges, Blekokeuii, me a Ducherrenge | - | Obedience, Kindness, and Perseverance                                      |
| Odinelt er a Klauchad                        | - | Visits to Kin and Others   |
| Klengariou el Reng me a Omelekoi             | - | Humility and Verbal Conduct  |
| Uelkerreu me a Klechubechub                  | - | Care and Compassion  |
| Chelbelei a Blai me a Beluu                  | - | Concern for the Needs and Problems of<br>Family and Village <sup>324</sup> |

Teaching in private homes continued until the boys and girls reached maturity. The basics of conduct the children learned at home prepared them to behave appropriately in society, exemplifying their family, clan and village.<sup>325</sup> "Children are constantly engaged in cognitive and interactional skills that promote comprehension, inferencing, and draws on the creative use of metaphors essential for effective performance and recognition as an elder."<sup>326</sup>

The maternal uncle was the person usually responsible for training the male children. When they were considered ready for advanced vocational learning and matters that involved interaction with the public, young men joined *kekerei el cheldebechel el sechal* (young unmarried men's organization)-and young women joined *kekerei le chledebechel dil* (young unmarried women's organization); the "small clubs" of the

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<sup>324</sup> Palau Historians, *Traditional Education*, 4 - 5

<sup>325</sup> Palau Historians, *Traditional Education*, 4.

<sup>326</sup> Isebong Asang, "Searching for a Palauan Identity with an English Accent: Language with an Attitude." (paper presented at the 24th Annual University of Hawaii, Pacific Islands Studies Conference: Out of Oceania: Diaspora, Community, and Identity, Honolulu, October 20, 1999)

village.<sup>327</sup> In these “small clubs” they were “introduced to various skills and knowledge required of their age group.”<sup>328</sup>

Men’s clubs were the general training and proving grounds for young men and played a crucial role in their development. Skills were learned, practiced and displayed in club projects. As club members they could gain recognition for themselves by displaying their skills in club activities. They learned from their peers “contributing or exchanging knowledge and skills relating to their assignments, occupations and responsibilities.”<sup>329</sup> These clubs were usually assigned tasks to assist the second club. Clubs deliberately sought to accomplish difficult tasks in order to train their members and improve their skills.<sup>330</sup>

A man would not try to master all techniques but concentrate on one or two to perfect. For their vocational training, adolescent boys were “apprenticed” to an elder “considered knowledgeable, skillful and experienced in the occupation”<sup>331</sup> Possible vocations included hunting and fishing, gathering coconut sap, wood carving and the building of canoes or houses.

Adolescent girls usually spent much time with her mother’s mother, learning about her clan and family.<sup>332</sup> They acquired knowledge and skills related to taro gardening, the organization of a household, marriage, child-raising, and the behavior expected from the female member of a family in connection with the interests and welfare of the village. Handicrafts were among the occupations in which women could specialize.

After participating in the small clubs, they could proceed to the next level of learning in *ongerung el klou el cheldebechel* (the second club), and then *klou el cheldebechel* (the large club) .<sup>333</sup> The second club consisted of usually married adults who owned their own homes and had obligations and responsibilities within their family or clan.<sup>334</sup> They supervised the small clubs and supported the large club.

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<sup>327</sup> Palau Historians, *Traditional Education*, 8

<sup>328</sup> Palau Historians, *Traditional Education*, 13

<sup>329</sup> Palau Historians, *Traditional Education*, 8

<sup>330</sup> Palau Historians, *Traditional Education*, 11

<sup>331</sup> Palau Historians, *Traditional Education*, 8

<sup>332</sup> Palau Historians, *Traditional Education*, 9

<sup>333</sup> Palau Historians, *Traditional Education*, 13

<sup>334</sup> Palau Historians, *Traditional Education*, 11

## Men's Clubs

*klou el cheldebechel*

("the large club") - consisted of male titleholders

Its members established, strengthened, maintained, protected and envisioned programs for the beluu, and supervised the other clubs.

*ongerung el klou el cheldebechel*

("the second large club")

Its members assisted in the protection and promotion of programs for the beluu, and supervision of the small clubs

*kekerei el cheldebechel el sechal*

("small clubs")

the first club that adolescents attended

Its members taught skills important to the welfare of the village to other young people.

Its members were usually given minor assignments to assist to the second club.

## Women's Clubs

*klou el cheldebechel er a redil*

("the large club of the women")

consisted of female titleholders.

Its members generated, promoted, supervised and protected programs for their beluu, and supervised the other clubs.

*ongerung el klou el cheldebechel*

("the second large club")

Its members organized the women's activities and fostered economic well-being by performing klomengelungel.

*kekerei le cheldebechel dil*

the first club that adolescents attended

Its members taught skills important to the welfare of the village to other young people.

Its members were usually given minor assignments to assist to the second club.<sup>335</sup>

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<sup>335</sup> Palau Historians, *Traditional Education*, 11 - 12



## First Encounters (Documented)

When the Palauans were informed through their interpreter that a hand shake was the English style of greeting, “they went to every man present and took him by the hand, nor ever after omitted this token of regard, as often as they met our countrymen.”<sup>336</sup>

George Keate wrote “He possessed naturally so unbounded a curiosity, that not the smallest circumstance which occurred escaped his notice; he wished to have an explanation of every thing he saw, to imitate whatever our people did, and to inquire into the principle and causes of all he observed brought about by them, lending his personal assistance in every thing that was doing, and even desired to aid the cook in blowing the fire.”<sup>337</sup>

Editors Karen Nero and Nicholas Thomas explain that “this eagerness to acquire an understanding of novelties would have constituted one of the clearest indications of relative social advancement,” for Keate’s readers<sup>338</sup>

## The Story of LeeBoo

LeeBoo was the second son of Ibedul, the leading man of Koror, at the time of the shipwreck of the British ship “Antelope”. He was Ibedul’s adopted son. “Lebuu’s name, which is Yapese, and Koror naming practices and oral histories, attest to his being part Yapese.”<sup>339</sup> “According to Koror and Yapese oral histories Lebuu was half Palauan and half Yapese, although accounts differ as to whether he was of the Idid clan through his mother or father.”<sup>340</sup>

When the English had completed building a schooner from the wreckage of the “Antelope”, and were preparing for departure, Ibedul selected Lee Boo to accompany them. Ibedul’s explanation to Captain Henry Wilson was that “he had sent for him from a distant place where he had been under the care of an old

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<sup>336</sup> Keate, *An Account of the Pelew Islands*, 65

<sup>337</sup> Keate, *An Account of the Pelew Islands*, 83

<sup>338</sup> Keate, *An Account of the Pelew Islands*, 365

<sup>339</sup> Keate, *An Account of the Pelew Islands*, 379

<sup>340</sup> Keate, *An Account of the Pelew Islands*, 17

man”<sup>341</sup> and he wished that Lee Boo “might have the advantage of improving himself by accompanying the English, and of learning many things, that might at his return greatly benefit his own country.”<sup>342</sup> As this explanation was relayed to Captain Wilson through Malay interpreters - from Palauan to Malay and then Malay into English, it is possible that some of the accuracy of the conversation may have been lost in translation, and when the conversation was finally chronicled by Keate, the narration may have been romanticized: “what has become recognized as the “official” history of Lee Boo is... always mediated through the lens of westerners and western-oriented cultural translation.” <sup>343</sup>

Ibedul had previously rejected Rechucher’s, his brother, request to travel with the English citing customary obligations of his position in their community. Keate described Rechucher as inquisitive and that he “wished to have an explanation of everything he saw, to imitate whatever our people did, and to inquire into the principle and causes of all he observed”.<sup>344</sup> The plaque underneath the memorial statue of Prince Lee Boo erected in front of Palau Community College in 1999, credits him with being “Palau’s first true scholar”.

Karl Semper wrote “But this general interest quickly allowed room for an inner brotherly feeling for me and quickly changed into real intellectual curiosity. Nothing escaped his notice. Hour after hour, he sat at my feet to let me explain the smallest details about why I had scientifically prepared and packed so many mussel shells, insects, worms, and all manner of other marine animals. He quickly realized that this all must have a different significance than the one his countrymen had supposed: I collected these animals merely to sell as food in Europe for a lot of money, just as Woodin did with his trepang. Whenever I showed him a variety of small animals with the microscope or let him focus on distant landscapes with the telescope from

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<sup>341</sup> Keate, *An Account of the Pelew Islands*, 199

<sup>342</sup> Keate, *An Account of the Pelew Islands*, 199

<sup>343</sup> David Kupferman, “Disassembling School in Micronesia: Genealogy, Subjectivity, Possibility.” (PhD diss, University of Hawaii, 2011)

<sup>344</sup> Keate, *An Account of the Pelew Islands*, 83

my theodolite, which I used for measuring the reef, his child-like, naïve joy over the marvelous abilities of the two instruments was quickly followed by the question what they were used for.”<sup>345</sup>

### Spanish Missionaries

Canoesful of Palauans which had drifted to the Philippines in the early 18th century, aroused the curiosity of the Catholic missionaries. They were inspired to search for the mysterious “Palos” islands to establish a mission for evangelization of the natives.

On April 28, 1891, two Capuchin priests and two Capuchin brothers arrived in Koror to found the first permanent mission in Palau. Ibedul provided them temporary accommodation in an old meeting house near the water.<sup>346</sup> The mission house they built themselves was “a sturdy little building made of planks and bamboo, open to the breezes and so windy at times that the kerosene lamp could not be kept lit.”<sup>347</sup> While the house was under construction, a small number of women and their children began visiting the mission almost daily. The Capuchins began their instruction with informal sessions; “looking at religious pictures: stories of angels and saints, demons, Our Lady and Jesus.”<sup>348</sup> Within a year a church dedicated to the Sacred Heart had been built, and in January 1892 the first mission school was opened.<sup>349</sup> The Capuchins’ mission was to replace the traditional customs they considered contrary to Christian living; the clubhouse prostitution, the ease with which couples divorced and remarried, and the local sorcery and spirit communication. They challenged the Palauan way of life, and many adults prohibited their children from attending the mission school.<sup>350</sup>

In April 1893, mission station with a chapel dedicated to St Joseph and house were established in Ngarchelong, and within a year a small school was operational. As the Catholic priests founded their new

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<sup>345</sup> Semper, *The Palau Islands in the Pacific Ocean*, 85

<sup>346</sup> Francis Hezel, *The Catholic Church in Micronesia: Historical Essays on the Catholic Church in the Caroline-Marshall Islands*. 2003. <http://www.micsem.org/pubs/books/catholic/palau/index.htm> (accessed February 18, 2014) (Chicago: Loyola University Press, 1991), 196

<sup>347</sup> Francis Hezel, *The Catholic Church in Micronesia*, 197

<sup>348</sup> Francis Hezel, *The Catholic Church in Micronesia*, 197

<sup>349</sup> Francis Hezel, *The Catholic Church in Micronesia*, 200

<sup>350</sup> Francis Hezel, *The Catholic Church in Micronesia*, 197

mission stations, they also opened schools that provided young people with instruction in the Spanish language and religion, and sometimes also with a smattering of agriculture or carpentry as well.<sup>351</sup>

In 1899 Spain sold Palau to Germany to recover from financial difficulties after the Spanish-American War. Although the Spanish Capuchins continued their work after Germany acquired possession of the Carolines in 1899, attendance at the schools declined as Spanish language was no longer important to Palauans.<sup>352</sup> A small mission was established in Melekeok in 1902.<sup>353</sup>

It has been estimated that prior to European contact that Palau supported a population of between thirty to fifty thousand people.<sup>354</sup> A census taken in 1901 - 02 counted 3750 people.<sup>355</sup> There was great concern about the Palauan population decline. The German policy was to provide health care and education. With the support of the Capuchin missionaries, they sought to encourage the formation of regular families. They attempted to discontinue the practice of customary adoption, and closed the clubhouses where the remengol stayed.

### Education during the German Administration

In 1902 the German Government established the first government-run school to instruct local policemen. The curriculum consisted of the German language, reading, writing, and arithmetic.<sup>356</sup> Two hours of class a day were offered to twenty or thirty men.<sup>357</sup>

In 1906, the Spanish priests and brothers relinquished their mission in Palau.<sup>358</sup> The German Capuchins arrived in Palau in January 1907.<sup>359</sup> They quickly realized that school for the children was the means to

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<sup>351</sup> Francis Hezel, *Schools in Micronesia Prior to American Administration*

<sup>352</sup> Francis Hezel, *The Catholic Church in Micronesia*, 202

<sup>353</sup> Francis Hezel, *The Catholic Church in Micronesia*, 201

<sup>354</sup> Rechebei and McPhetres, *History of Palau*, 110

<sup>355</sup> Rechebei and McPhetres, *History of Palau*, 132

<sup>356</sup> Palau Community Action Agency, *A History of Palau Volume Two*, 195

<sup>357</sup> Francis Hezel, *Schools in Micronesia Prior to American Administration*

<sup>358</sup> Francis Hezel, *The Catholic Church in Micronesia*, 202

<sup>359</sup> Francis Hezel, *The Catholic Church in Micronesia*, 202

bring Christianity to Palau.<sup>360</sup> Palauan children attended the Catholic schools as they offered the only avenue for formal education. At the heart of the curriculum was the study of the German language, a project that was subsidized by the German government. Direct government involvement in education was minimal.<sup>361</sup>

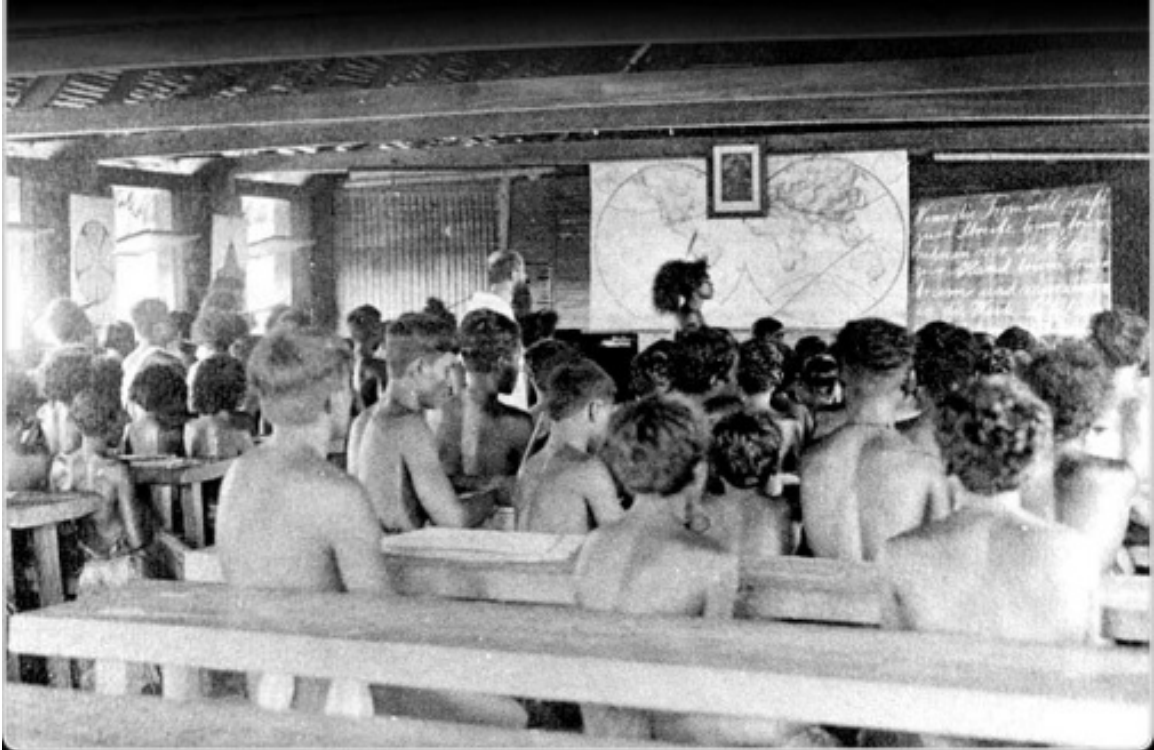


Figure 83: Catholic school in Koror in 1910  
from Micronesian Seminar Collection, The Catholic Church in Micronesia, Photo 9  
<http://www.micsem.org/photos/catholic/09.htm> (accessed December 15, 2012)

The Aimeliik mission station was the largest founded in 1911. It served the Aimeliik district, and almost four hundred Pohnpeians who had been exiled from their islands after the Sokehs rebellion.<sup>362</sup>

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<sup>360</sup> Francis Hezel, *The Catholic Church in Micronesia*, 203

<sup>361</sup> Francis Hezel, *Schools in Micronesia Prior to American Administration*

<sup>362</sup> Hezel, *The Catholic Church in Micronesia*, 206

Pohnpeians had three hours of class on week day mornings, and Palauan had three hours of class in the afternoons.<sup>363</sup> By the end of 1915 all the German missionaries had been expelled from Palau

### Education during the Japanese Administration

Education was mandatory for all children, with one system for the Japanese and another for Palauans. Although the purpose of educating Palauans was to “civilize” them and prepare them for jobs as laborers, servants and low-level officials, some Palauan students were able attend specialized training in Japan.

Japan established a standard education system throughout the islands. Most students had three years of basic schooling, but some were offered an additional two years. Strict discipline was one of the hallmarks of Japanese education.



Figure 84: Japanese school in Koror, Palau  
from Micronesian Seminar Collection, A Brief History of Education in Micronesia, Photo 10  
(photo from the Japanese Collection, Palau Museum)  
<http://www.micsem.org/photos/education/10.htm> (accessed December 15, 2012)

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<sup>363</sup> Hezel, *The Catholic Church in Micronesia*, 207

The highest level of educational was the carpentry school in Palau. The few students chosen to attend were taught trade theory and given hands-on training. Only ten students a year graduated from the carpentry school, most of whom found jobs with the government.



Figure 85: Japanese Carpentry school Palau  
from Micronesian Seminar Collection, A Brief History of Education in Micronesia, Photo 13  
(photo from the Japanese Collection, Palau Museum)  
<http://www.micsem.org/photos/education/13.htm> (accessed December 15, 2012)

Modernization and secularization were advancing in Palau. Many of the residents of Koror, who twenty years earlier wore grass-skirts and loincloths, now wore Japanese clothes: the men in trousers and shirts, the women in kimonos, sometimes made of silk. "Far more ominous in the eyes of the missionaries, though, was the "thirst for money" that had become widespread within just a few years. To buy their clothes and provide the other appurtenances of modern life—electricity, housing materials and medicine, among other things—Palauans avidly sought a wage income. Worse still, Japanese public education was reinforcing these

materialistic values in a learning environment far more congenial to atheism than to the religious beliefs the missionaries were working to instill.”<sup>364</sup>

### Education during the American Administration

After the Second World War Palau became a United Nations trust territory administered by the United States. Elementary schools offered six years of education in all the villages. In 1946 the Navy Administration administered Palau Intermediate School. The school covered grades 7 to 9 until the 1960’s when the elementary schools were increased from grades 1 to 8. The school became Palau High School and changed to cover grades 9 to 12, teaching Vocational Education Programs many of which are still being taught today.<sup>365</sup>

In 1950 William Vitarelli was assigned as the community development, and education and training specialist. His focus was to fulfill the American commitments to political development and independence.<sup>366</sup>

From 1951 to 1954, William Vitarelli directed the building of schools, often with local materials and unskilled labor. In association with David Ramarui and Alfonso Oiterong he initiated a school program where students learnt math and business practice by application. He established a sawmill, produce market and furniture factory; and helped build fishing boats.<sup>367</sup>

In the *Education in Palau: Educational Bulletin No. 1*, William Vitarelli wrote, “The amassing of facts through formal schooling or the acquisition of knowledge is only one part of the process of becoming educated. The other more important part of the process is the application of this knowledge in solving life’s problems.”<sup>368</sup> He wrote to inform the Palau community of the Department of Education’s objectives and “to enlist its cooperation in helping us to make the schools of Palau a practical agency for carrying out the basic

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<sup>364</sup> Hezel, "The Catholic Church in Micronesia".

<sup>365</sup> Palau High School, accessed October 13, 2016, <http://www.palaumoe.net/phs/about.php>

<sup>366</sup> Dirk Ballendorf, "William V. Vitarelli: a colonial hero on Micronesia" in *Leadership in the Pacific Islands: tradition and the future*, ed. Donald Shuster et al (Canberra: National Centre for Development Studies, The Australian National University, 1998), 60

<sup>367</sup> Ballendorf, "William V. Vitarelli: a colonial hero on Micronesia": 61

<sup>368</sup> William Vitarelli, *Education in Palau: Educational Bulletin No. 1* (Koror: Department of Education, April 1953), 1



polices of the High Commissioner”<sup>369</sup> of making education “...a practical instrument for hastening the day when the indigenes will be able to conduct their own affairs with competence.”<sup>370</sup>

The Trust Territory Administration believed it was necessary “to equip the local inhabitants for the conduct of their government and the management of their trade and industry.”<sup>371</sup> They overlooked that Palauans had been conducting their own affairs with competence for centuries prior to western intervention/interference.

In 1962 he was assigned as the architect and project coordinator for the Accelerated Elementary School Program. He wanted the local Palauans to build the schools and houses, but his Trust Territory of the Pacific Islands superiors did not believe that they could meet the project’s specifications. <sup>372</sup>



Figure 86: Nursing School Palau 1955  
from Micronesian Seminar Collection, A Brief History of Education in Micronesia, Photo 19  
(photo from TT Archives, University of Hawaii Library)  
<http://www.micsem.org/photos/education/19.htm> (accessed December 15, 2012)

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<sup>369</sup> Vitarelli, *Education in Palau: Educational Bulletin No. 1*, 4

<sup>370</sup> Vitarelli, *Education in Palau: Educational Bulletin No. 1*, 4

<sup>371</sup> Vitarelli, *Education in Palau: Educational Bulletin No. 1*, 4

<sup>372</sup> Ballendorf, “William V. Vitarelli: a colonial hero on Micronesia”: 1998)

By the early 1960s one of every five Micronesian children was attending a mission school.<sup>373</sup> Some of the most promising students were sent off to medical or nursing school.<sup>374</sup> In 1994 Palau became fully self-governing in free Association with the United States.



Figure 87: Palau elementary mission school  
from Micronesian Seminar Collection, A Brief History of Education in Micronesia, Photo 21  
(photo from a Micronesian Seminar Photo, Micronesian Seminar)  
<http://www.micsem.org/photos/education/21.htm> (accessed December 15, 2012)

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<sup>373</sup> from Micronesian Seminar Collection, A Brief History of Education in Micronesia, Photo 21, (photo from a Micronesian Seminar Photo, Micronesian Seminar), accessed December 15, 2012, <http://www.micsem.org/photos/education/21.htm>

<sup>374</sup> Micronesian Seminar Collection, A Brief History of Education in Micronesia, Photo 19, (photo from TT Archives, University of Hawaii Library), accessed December 15, 2012, <http://www.micsem.org/photos/education/19.htm>

## Contemporary Formal Education in Palau

Population statistics in Palau are generally compiled and disseminated every 5 years. This document uses the census conducted in April 2005. Palau missed the 2010 census because budget funding was unavailable. A mini-census was conducted in December 2012, and only limited published data is available from the 2015 census.

While there were twenty seven schools in Palau in 2005, there are now twenty three schools. There are sixteen elementary schools; fourteen public elementary schools and two private elementary schools, and six secondary schools; one public secondary school and five private secondary schools. There is one college in Palau; Palau Community College.

In the comparison of school enrollments between 2005 and 2015, there is a noticeable decrease in student numbers. In 2005 there were 2,831 elementary school students; 1489 boys and 1342 girls, and 1320 secondary school students; 638 boys and 682 girls. In 2015 there were 2117 elementary school students; 1103 boys and 1014 girls, and 979 secondary school students; 506 boys and 473 girls. The decrease is 714 elementary school students; 286 boys and 328 girls, and 341 secondary school students; 132 boys and 209 girls.

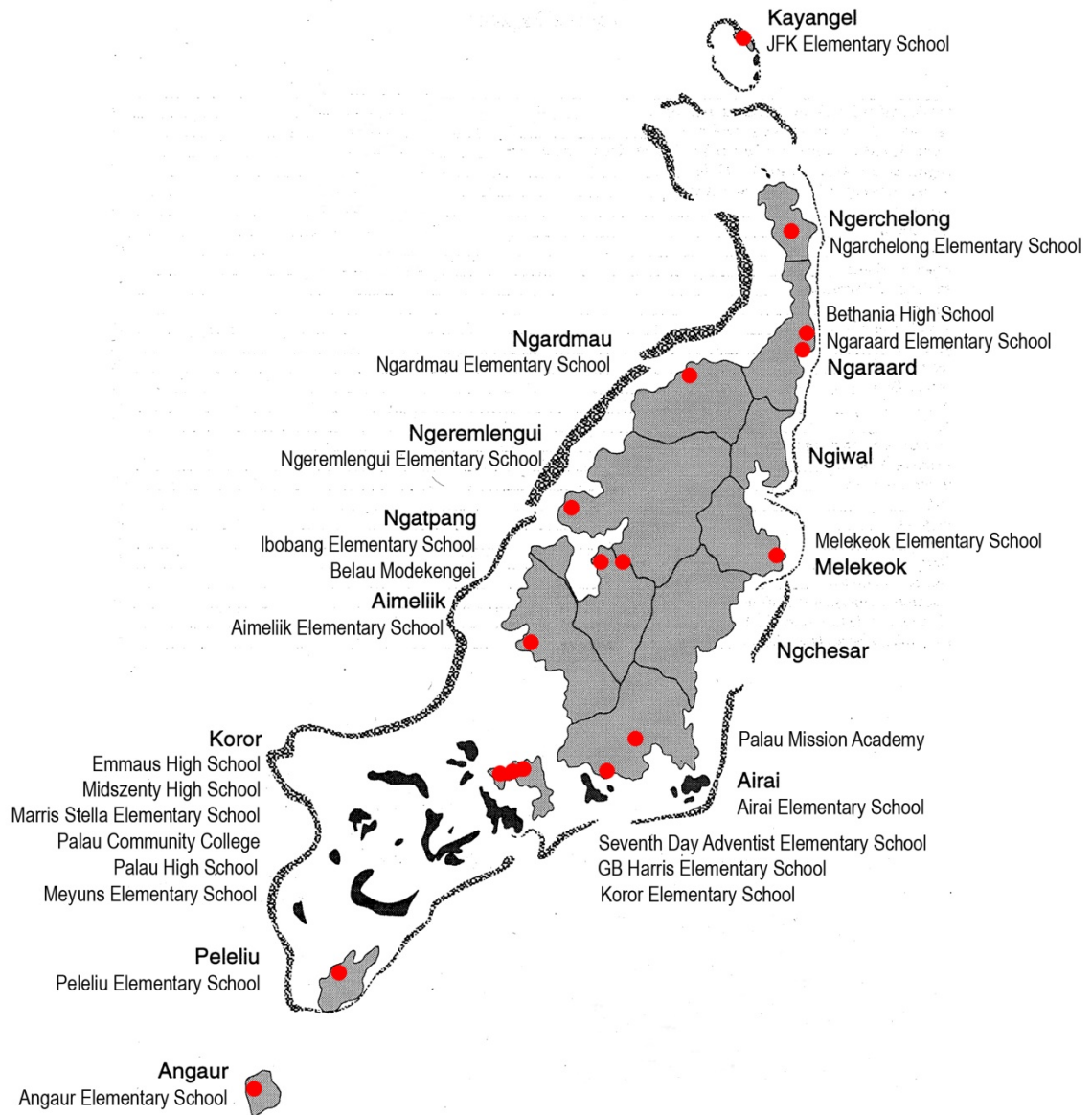


Figure 88: Locations of schools in Palau.

|                             | Students 2005  |                |                | Students 2015  |                |                |
|-----------------------------|----------------|----------------|----------------|----------------|----------------|----------------|
|                             | Total          | Male           | Female         | Total          | Male           | Female         |
| <b>Public Elementary</b>    | <b>2,274</b>   | <b>1,211</b>   | <b>1,063</b>   | <b>1,710</b>   | <b>912</b>     | <b>798</b>     |
| Aimeliik                    | 75             | 43             | 32             | 52             | 29             | 23             |
| Airai                       | 184            | 96             | 88             | 147            | 75             | 72             |
| Angaur                      | 29             | 17             | 12             | 19             | 13             | 6              |
| GB Harris                   | 528            | 288            | 240            | 297            | 163            | 134            |
| Ibobang                     | 24             | 13             | 11             | 19             | 11             | 8              |
| JFK (Kayangel)              | 14             | 7              | 7              | 8              | 4              | 4              |
| Koror                       | 704            | 356            | 348            | 696            | 379            | 317            |
| Melekeok                    | 42             | 19             | 23             | 99             | 49             | 50             |
| Meyuns                      | 231            | 124            | 107            | 143            | 81             | 62             |
| Ngaraard                    | 65             | 34             | 31             | 39             | 18             | 21             |
| Ngarchelong                 | 58             | 35             | 23             | 62             | 27             | 35             |
| Ngardmau                    | 40             | 25             | 15             | 22             | 9              | 13             |
| Ngchesar                    | 45             | 22             | 23             |                |                |                |
| Ngeremlengui                | 68             | 37             | 31             | 40             | 23             | 17             |
| Ngiwal                      | 40             | 25             | 15             |                |                |                |
| Peleliu                     | 112            | 59             | 53             | 67             | 31             | 36             |
| Pulo Ana                    | 7              | 4              | 3              |                |                |                |
| Sonsorol                    | 8              | 7              | 1              |                |                |                |
| <b>Private Elementary</b>   | <b>557</b>     | <b>278</b>     | <b>279</b>     | <b>407</b>     | <b>191</b>     | <b>216</b>     |
| Marris Stella               | 309            | 151            | 158            | 205            | 97             | 108            |
| Seventh Day Adventist       | 248            | 127            | 121            | 202            | 94             | 108            |
| <br><b>Public Secondary</b> | <br><b>834</b> | <br><b>425</b> | <br><b>409</b> | <br><b>636</b> | <br><b>328</b> | <br><b>308</b> |
| Palau High School           | 834            | 425            | 409            | 636            | 328            | 308            |
| <b>Private Secondary</b>    | <b>486</b>     | <b>213</b>     | <b>273</b>     | <b>343</b>     | <b>178</b>     | <b>165</b>     |
| Belau Modekengei            | 34             | 22             | 12             | 23             | 16             | 7              |
| Bethania High School        | 98             |                | 98             | 42             |                | 42             |
| Emmaus High School          | 60             | 60             |                | 50             | 50             |                |
| Mindszenty                  | 212            | 94             | 118            | 114            | 52             | 62             |
| Palau Mission Academy       | 82             | 37             | 45             | 114            | 60             | 54             |

Figure 89: Elementary and Secondary School Enrollment, Comparison between 2005 and 2015  
data from Republic of Palau Bureau of Budget & Planning, 2006 Statistical Yearbook, Tables 13.4a & 13.5a, 117 & 119  
data from Republic of Palau Bureau of Budget & Planning, 2015 Statistical Yearbook, Tables 11.4c & 11.5c

In the comparison of the population statistics between 2005 and 2015, there is a noticeable decrease in the numbers of younger people. By correlating the number of children aged under five in 2005 (1363 children; 685 boys and 678 girls) with the children aged ten to fourteen in 2015 (1209 children; 636 boys and 573 girls), there is a noticeable decrease (154 children; 49 boys and 105 girls). This indicates an out-migration of children from Palau, leading to decreasing school rolls. The decrease is more significant when correlating children aged ten to fourteen in 2005 (1914 children; 964 boys and 950 girls) with the young adults aged twenty to twenty-four in 2015 (1195 young adults; 687 young men and 508 young women), a decrease of (719 people; 277 young men and 442 young women).

|             | Population 2005 |        |        | Population 2015 |       |        |
|-------------|-----------------|--------|--------|-----------------|-------|--------|
|             | Total           | Male   | Female | Total           | Male  | Female |
| Total       | 19,907          | 10,669 | 9,208  | 17,661          | 9,433 | 8,228  |
| less than 5 | 1,363           | 685    | 678    | 1,200           | 653   | 547    |
| 5 to 9      | 1,521           | 805    | 716    | 1,219           | 614   | 605    |
| 10 to 14    | 1,914           | 964    | 950    | 1,209           | 636   | 573    |
| 15 to 19    | 1,462           | 715    | 747    | 1,201           | 624   | 577    |
| 20 to 24    | 1,266           | 712    | 554    | 1,195           | 687   | 508    |
| 25 to 29    | 1,583           | 942    | 641    | 1,217           | 694   | 523    |
| 30 to 34    | 1,856           | 1,072  | 784    | 1,338           | 759   | 579    |
| 35 to 39    | 1,965           | 1,132  | 833    | 1,420           | 813   | 607    |
| 40 to 44    | 1,887           | 1,096  | 791    | 1,501           | 861   | 640    |
| 45 to 49    | 1,534           | 842    | 692    | 1,538           | 820   | 718    |
| 50 to to 54 | 1,182           | 624    | 558    | 1,363           | 708   | 655    |
| 55 to 59    | 732             | 393    | 339    | 1,126           | 605   | 521    |
| 60 to 64    | 506             | 254    | 252    | 851             | 432   | 419    |
| 65 to 89    | 373             | 170    | 203    | 554             | 271   | 283    |
| 70 to 74    | 257             | 119    | 138    | 314             | 137   | 177    |
| 75 and over | 506             | 174    | 332    | 415             | 119   | 296    |

Figure 90: Palau's Population, Comparison between 2005 and 2015  
data from Republic of Palau Bureau of Budget & Planning, 2015 Statistical Yearbook, Table2.4a

The out migration from Palau reverses with people aged fifty and over returning

In 2005, 72.5 percent of Palau's 19,907 population was Palauan.<sup>375</sup> 6.8 percent of the population was under 5, 22.1 percent was between 5 and 18, 8.9 percent was 18 to 24, 36.6 percent was 25 to 44, 19.9 percent was 45 to 64, and 5.7 percent was over 65<sup>376</sup>

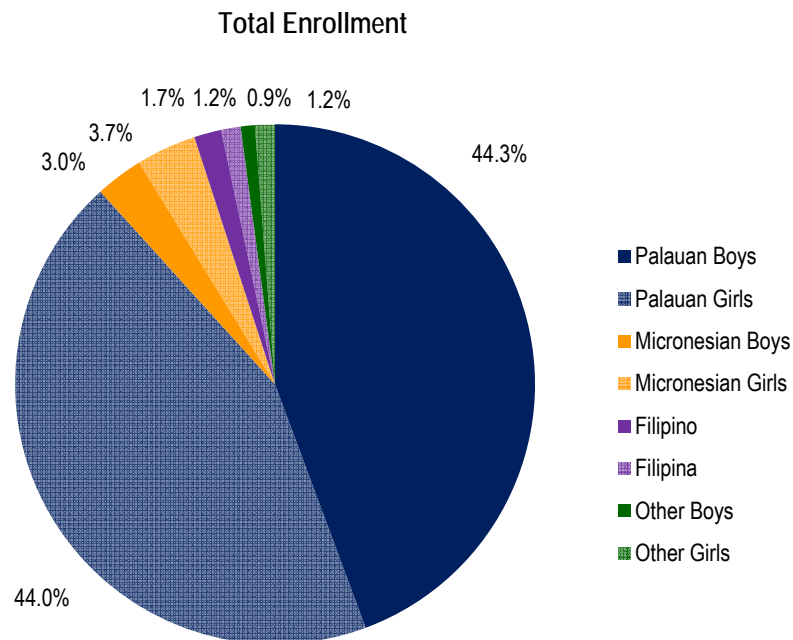


Figure 91: Total School Enrolment by Ethnicity  
data from *2005 Census of Population and Housing of the Republic of Palau: Volume 1 Basic Tables*, Table 93, 142

In 2005 of the 5,017 people in Palau enrolled in schools, 4,429 were Palauan. 88.3 percent of the students were Palauan; 44.3 percent boys, and 44.0 percent girls.

<sup>375</sup> Republic of Palau, *2005 Census*, 13

<sup>376</sup> Republic of Palau, *2005 Census*, 11

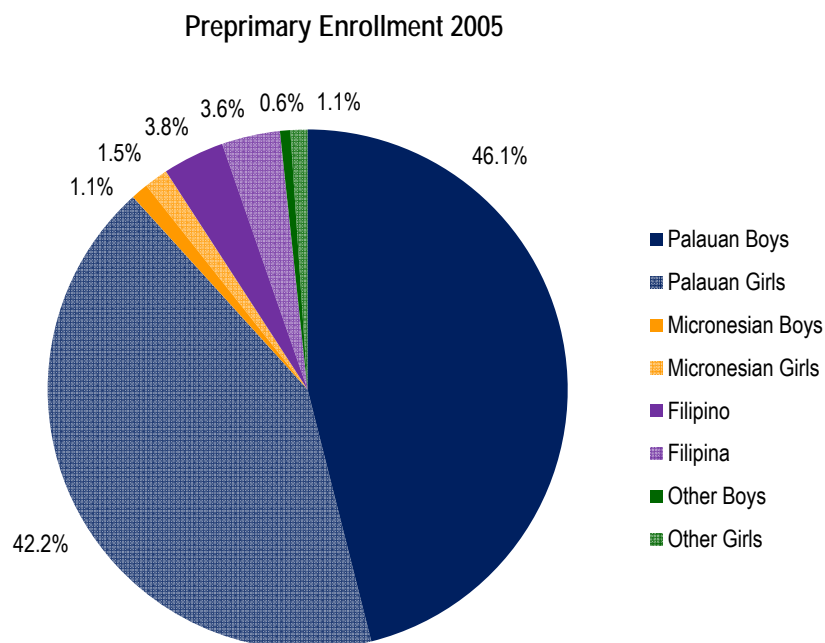


Figure 92: Preprimary School Enrolment by Ethnicity  
data from *2005 Census of Population and Housing of the Republic of Palau: Volume 1 Basic Tables*, Table 93, 142

In 2005, 414 of the 469 students in preprimary school were Palauan: 88.3 percent were Palauan; 46.1 percent were boys, and 42.2 percent were girls. 2,716 of the 2,964 students in elementary school were Palauan: 91.6 percent were Palauan; 47.5 percent boys, and 44.1percent girls. 904 of the 1039 students in high school were Palauan: 87percent were Palauan; 42.5 percent boys, and 44.5 percent girls. 395 of the 545 students in college were Palauan: 72 percent were Palauan; 29 percent boys, and 43.5 percent girls. There is a marked increase in the number of Micronesians students in tertiary education over secondary education, almost twenty five percent of the college students in Palau are Micronesian. <sup>377</sup>

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<sup>377</sup> Republic of Palau, *2005 Census*, 142



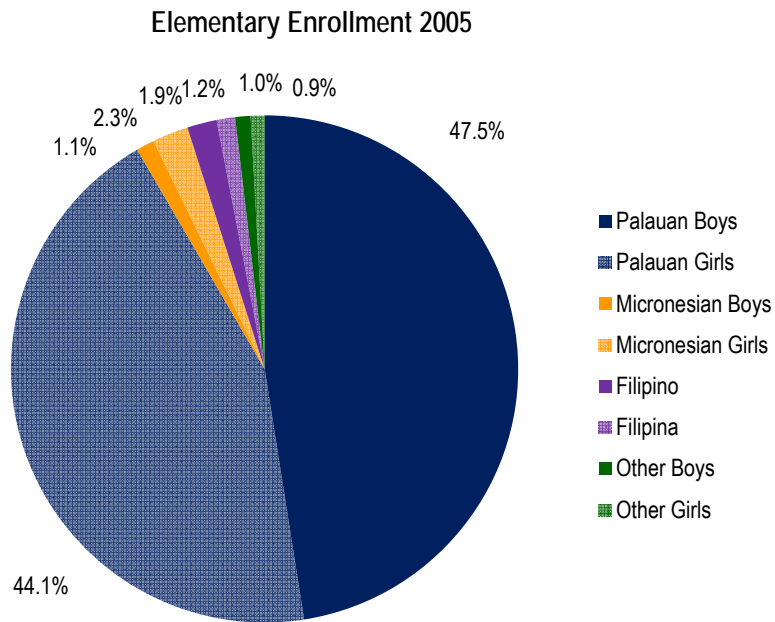


Figure 93: Elementary School Enrolment by Ethnicity  
 data from 2005 Census of Population and Housing of the Republic of Palau: Volume 1 Basic Tables, Table 93, 142

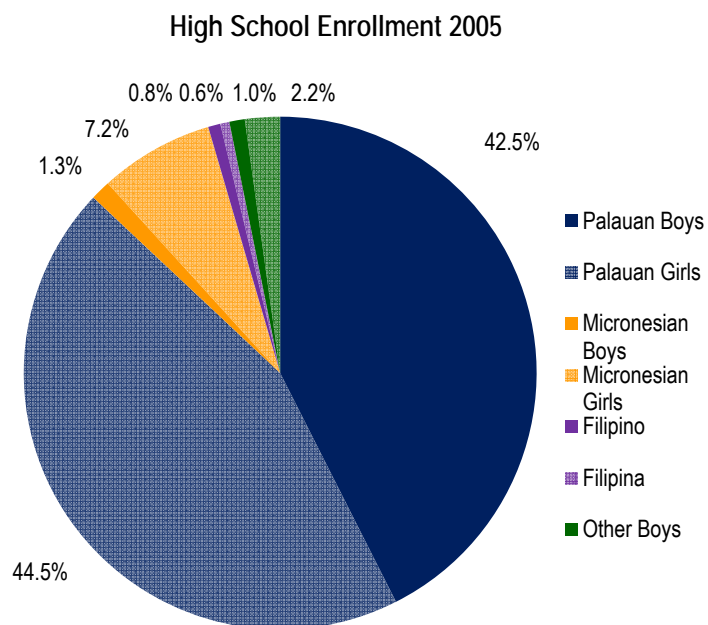


Figure 94: Elementary School Enrolment by Ethnicity  
 data from 2005 Census of Population and Housing of the Republic of Palau: Volume 1 Basic Tables, Table 93, 142

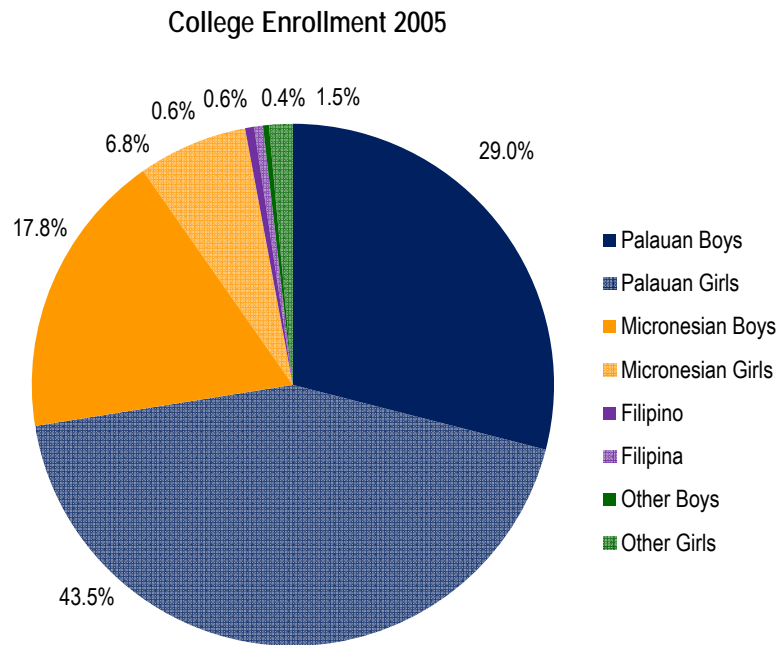


Figure 95: College Enrolment by Ethnicity  
 data from *2005 Census of Population and Housing of the Republic of Palau: Volume 1 Basic Tables, Table 93, 142*

## Chapter 8: Palau Community College: Architectural Drafting Program

### Introduction

This chapter provides an overview of Palau Community College and the Architectural Drafting Program as proposed in 2007. The Program was originally written for inclusion in the 2008 - 2012 General Catalog, and was also in the 2012 - 2016 General Catalog. Although the Architectural Drafting Program is not included in the 2016 - 2020 General Catalog, the two drafting courses (AD120 and AD210) which were incorporated into Construction Technology are included in the course descriptions.<sup>378</sup> However, the program has not been eliminated as the Architectural Drafting Program and its specific courses are still listed on the Palau Community College web site: <http://pcc.palau.edu/academics/>, <http://pcc.palau.edu/courses/ad/>

### Palau Community College (PCC)

Palau Community College is the only post-secondary vocational, academic institution in Palau. It is a two year college serving Palau, Micronesia and other Pacific Islands.

Palau Community College was original founded in 1969 as the Micronesian Occupational Center. It grew out of the Mokko School trade school begun in 1927 during the Japanese administration. The commitment to educational and economic development in Palau and Micronesia by the United States of America resulted in the expansion of vocational education. From 1955 to 1969 the college was known as the Palau Vocational/Technical College.<sup>379</sup>

In May 1978, Micronesian Occupational Center officially became Micronesian Occupational College, a distinct and complementary part of the College of Micronesia. In March 1993, the Republic of Palau President Kuniwo Nakamura signed into law the Higher Education Act of 1993, establishing Palau

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<sup>378</sup> 2016 - 2020 General Catalog, General Catalog Palau Community College, Vol.XVI, 2016, 73  
<http://pcc.palau.edu/wp-content/uploads/2014/06/PCC-Catalog-2016-2020.pdf>

<sup>379</sup> 2014 - 2015 PCC Fact Book, Institutional Research and Evaluation Office, 5  
<http://pcc.palau.edu/wp-content/uploads/2013/07/2014-2015-PCC-Factbook.pdf>

Community College as an independent college with its own governing board. Micronesian Occupational College officially became Palau Community College on April 2, 1993.<sup>380</sup>

## College Culture

Palau Community College perceives itself as “an accessible public educational institution helping to meet the technical, academic, cultural, social, and economic needs of students and communities by promoting learning opportunities and developing personal excellence”<sup>381</sup>

Palau Community College’s unifying principles are:

- Oba tal tekoi - Teamwork
- Kot el ngarbab lomeruul - Quality Services
- Diak a berrotel - Open Communication
- Ulterkokl olengcheled - Managing with Goals
- Oldubech a kedul a dereder - Promoting Leadership
- Melemalt e melangesmad - Integrity and Loyalty
- Tekoi el buai - Community Ownership
- Ouelangch ra melemolem el klungiaol - Continuous Improvement
- Sebrakl, ituuk, e melasm a tekoi - Creativity and Innovation
- Omengull ra tang ma tang - People and Respect for Others<sup>382</sup>

Palau Community College six Institutional Learning Outcomes are: Critical Thinking and Problem Solving, Communication, Quantitative and Technological Competence, Diversity and Civic Responsibility. At the completion of their studies, students are able to analyze and solve problems using informed judgment based on evidence, sound reasoning, and/or creativity to differentiate facts from opinions and to specify

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<sup>380</sup> 2008 - 2012 *General Catalog*, General Catalog Palau Community College, Vol.XV, 2008, 8

<sup>381</sup> 2008 - 2012 *General Catalog*, 8

<sup>382</sup> 2012 - 2016 *General Catalog*, General Catalog Palau Community College, Vol.XVI, 2012, 12

solutions and their consequences. They are able to communicate effectively, both orally and in writing, think in a clear, well-organized manner to persuade, inform and/or convey ideas in academic, work, family and community settings. They have mathematical skills appropriate to our technological society and are able to analyze and solve problems that are quantitative in nature and use technology for informational, academic, personal and professional needs. They understand and appreciate differences in cultures and behaviors and demonstrate respect, honesty, fairness, and ethical principles in both personal and professional life. They apply principles of civility and morality to situations in the contexts of a healthy family, work, community, environment and world.<sup>383</sup>

The Office Academic Affairs' goal is to train, expose and instill in students the opportunity to be prepared to further their education and/or be prepared to enter the work force.

To help ensure that students may continue their tertiary education at university and other colleges, Palau Community College has accreditation through the Accrediting Commission for Community and Junior Colleges (ACCJC) – Western Association of Schools and Colleges (WASC). It maintains articulation agreements with the many tertiary education institutions in the Asia/Pacific region and the United States mainland.<sup>384</sup>

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<sup>383</sup> 2012 - 2016 General Catalog, 12

<sup>384</sup> 2012 - 2016 General Catalog, 14

Three schools are administered within the college: School of Arts and Sciences, School of Business and School of Technical Education.

| School of Arts and Sciences:   | School of Business:     | School of Technical Education    |
|--------------------------------|-------------------------|----------------------------------|
| Agricultural Science           | Business Accounting     | Air Conditioning & Refrigeration |
| Community & Public Health      | Business Administration | Automotive Mechanics             |
| Criminal Justice               | Information Technology  | Construction Technology          |
| Education                      | Office Administration   | Electrical Technology            |
| Environmental/Marine Science   | Tourism & Hospitality   | General Electronics Technology   |
| Liberal Arts                   |                         | Small Engine & Outboard Marine   |
| Library & Information Services |                         |                                  |
| Nursing                        |                         |                                  |
| Palauan Studies                |                         |                                  |
| STEM Disciplines Program       |                         |                                  |

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## Enrollments by Trade Areas 2005

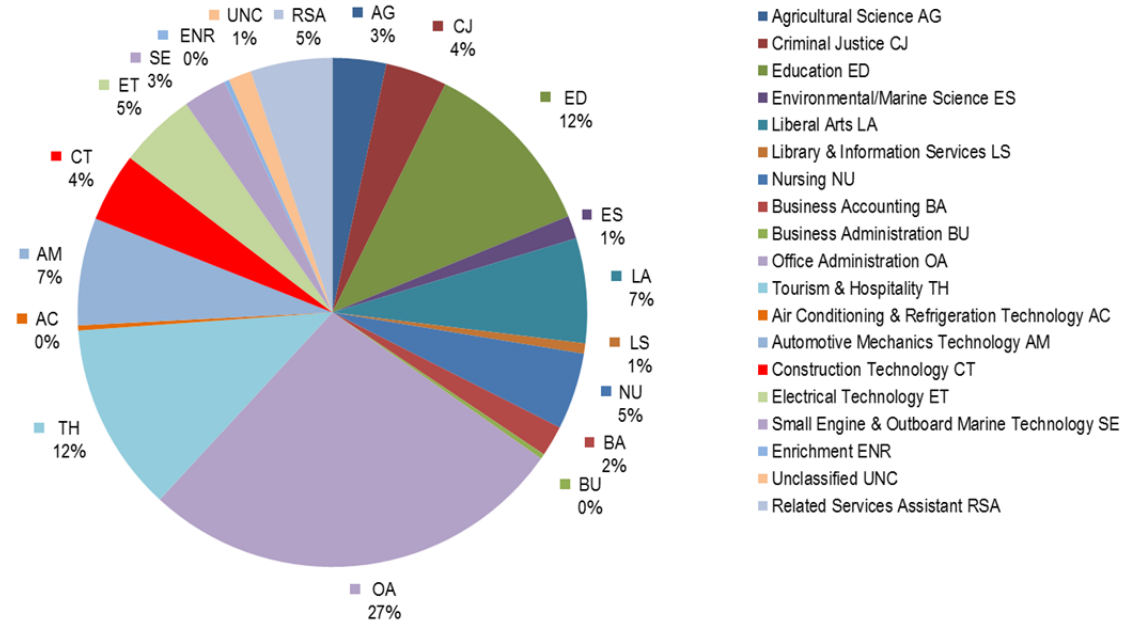


Figure 96: Palau Community College Enrollment by Trade Areas 2005  
 2006 Statistical Yearbook, Palau  
 Republic of Palau Bureau of Budget and Planning Ministry of Finance,  
<http://palaugov.pw/wp-content/uploads/2015/01/2006-Statistical-Yearbook.pdf>

In 2005 Palau Community college offered nineteen programs in different fields. Construction Technology constituted four percent of the 2005 college enrolments.

## Enrollments by Trade Areas 2015

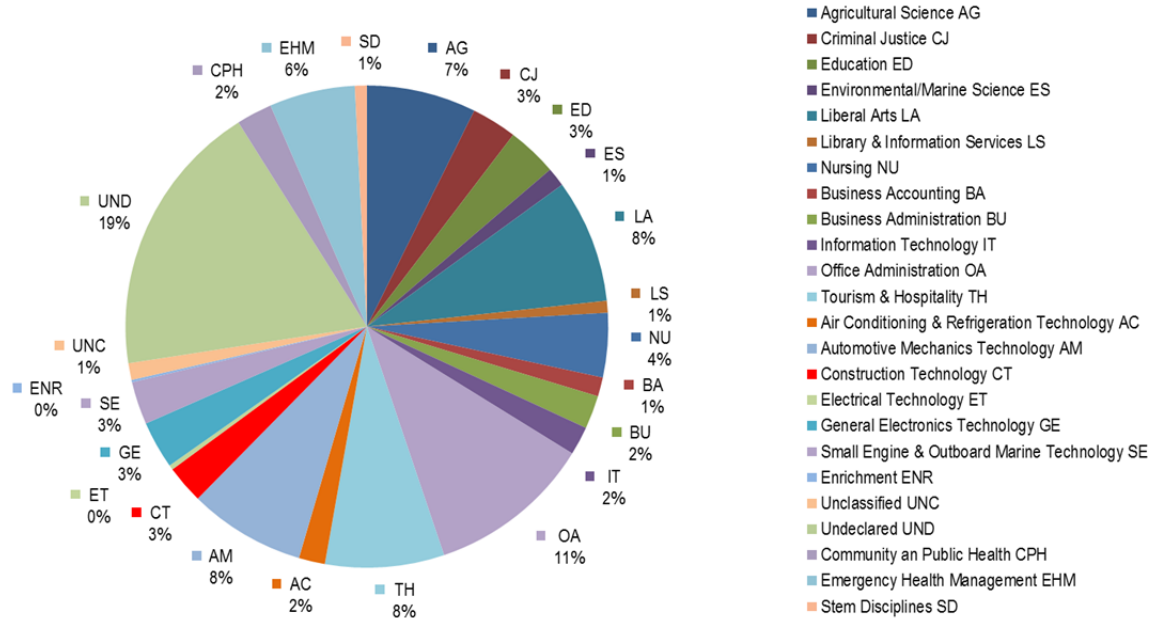


Figure 97: Palau Community College Enrollment by Trade Areas 2015  
data from 2015 Statistical Yearbook, Palau  
Republic of Palau Bureau of Budget and Planning Ministry of Finance  
<http://palaugov.pw/wp-content/uploads/2016/09/2015-Statistical-Yearbook.pdf>

Compared with the enrollments from the Registrar's Office, Palau Community College in 2005, several new programs were in 2015: Information Technology, General Electronics Technology, Community and Public Health, Emergency Health Management, and STEM Disciplines. It had been intended that Architectural Drafting be one of the programs offered, but possibly because of the decreased enrollment in Construction Technology, it was not considered a necessary program. Enrollment in Construction Technology had dropped to three percent. A large percentage of students who had not yet declared a major: nineteen percent; perhaps these are students preparing to transition to a four year college.<sup>386</sup>

<sup>386</sup> Palau Community College Enrollment by Trade Areas 2015  
data from 2015 Statistical Yearbook, Palau  
Republic of Palau Bureau of Budget and Planning Ministry of Finance  
<http://palaugov.pw/wp-content/uploads/2016/09/2015-Statistical-Yearbook.pdf>



## Enrollments in 2005

From the 2005 Census, the College Public School Enrollment (Palau Community College) was 485 students. Of those students 354 were Palauan, 119 were Micronesian, 10 were Asian and 8 were White/Other.<sup>387</sup> In Fall of 2005 Palau Community College had a total enrollment of 651 students. Of those students 475 were Palauan, 158 were Micronesian (98 were Yapese, 15 Chuukese, 10 Pohnpeian, 22 Kosraean, 13 Marshallese), and 18 were classified as other.<sup>388</sup>

The discrepancy between the student numbers from the 2005 Census and the data in the 2006 Statistical Yearbook sourced from the Registrar's Office of Palau Community College might be attributed to the Census being taken on April 1, 2005. In Spring 2005 Palau Community College had a total enrollment of 625 students. Of those students 443 were Palauan, 160 were Micronesian (103 were Yapese, 10 Chuukese, 9 Pohnpeian, 25 Kosraean, 13 Marshallese), and 22 were classified as other.<sup>389</sup>

The discrepancies between the student numbers from the 2005 Census and the data in the 2006 Statistical Yearbook sourced from the Registrar's Office of Palau Community College might be attributed to the self-reporting in the Census. However, the percentages taken off the data from both sources match; 73 percent of the students were Palauan, 24 percent of the students were Micronesian and 3 percent were classified as Filipino and Other.

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<sup>387</sup> Republic of Palau, *2005 Census*, 142

<sup>388</sup> Republic of Palau Bureau of Budget and Planning Ministry of Finance, *2006 Statistical Yearbook, Palau*, 135  
<http://palaugov.pw/wp-content/uploads/2015/01/2006-Statistical-Yearbook.pdf>

<sup>389</sup> Republic of Palau, *2006 Statistical Yearbook, Palau*, 134  
<http://palaugov.pw/wp-content/uploads/2015/01/2006-Statistical-Yearbook.pdf>

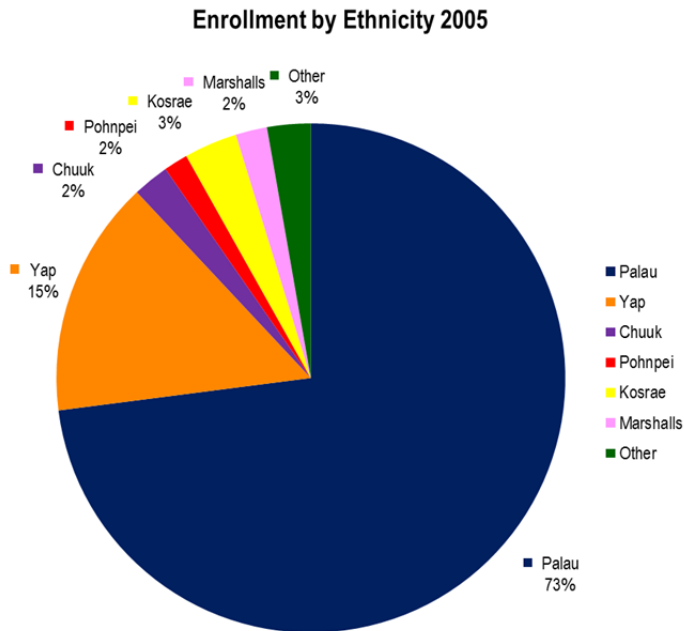


Figure 98: Palau Community College Enrollment by Ethnicity 2005  
 data from 2006 Statistical Yearbook, Palau  
 Republic of Palau Bureau of Budget and Planning Ministry of Finance, Table 13.17e, 135  
<http://palaugov.pw/wp-content/uploads/2015/01/2006-Statistical-Yearbook.pdf>

## Enrollments in 2015

In Fall of 2015 Palau Community College had a total enrollment of 627 students. Of those students 453 were Palauan, 144 were Micronesian (59 were Yapese, 17 Chuukese, 32 Pohnpeian, 14 Kosraean, 22 Marshallese), and 30 were classified as Other.<sup>390</sup> 76 percent of the students were Palauan, 20 percent of the students were Micronesian and 4 percent were classified as Other.

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<sup>390</sup> Republic of Palau, *2015 Statistical Yearbook, Palau*  
<http://palaugov.pw/wp-content/uploads/2016/09/2015-Statistical-Yearbook.pdf>

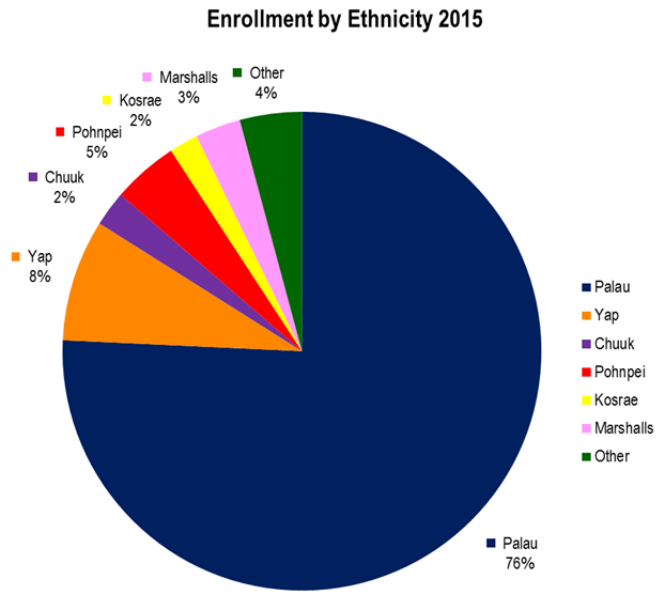


Figure 99: Palau Community College Enrollment by Ethnicity 2015  
 data from 2015 Statistical Yearbook, Palau  
 Republic of Palau Bureau of Budget and Planning Ministry of Finance  
<http://palaugov.pw/wp-content/uploads/2016/09/2015-Statistical-Yearbook.pdf>

Compared with the enrollments taken from the Registrar's Office, Palau Community College in 2005, the student roll has fallen. The percentage of Palauan students has increased 3 percent, and the percentage of Micronesians students has fallen 4 percent.

## Enrollments in Construction Technology 2005 - 2015

|           | Total | Palau | Yap | Chuuk | Pohnpei | Kosrae | Marshalls | Other |
|-----------|-------|-------|-----|-------|---------|--------|-----------|-------|
| Fall 2005 | 27    | 17    | 6   | 1     | 1       | 2      |           |       |
| Fall 2006 | 32    | 19    | 6   | 2     | 1       | 1      | 3         |       |
| Fall 2007 | 33    | 18    | 5   | 3     | 2       | 1      | 4         |       |
| Fall 2008 | 37    | 26    | 1   | 4     | 2       | 1      | 2         | 1     |
| Fall 2009 | 30    | 21    | 7   | 1     |         |        | 1         |       |
| Fall 2010 | 31    | 19    | 10  | 1     |         |        | 1         |       |
| Fall 2011 | 31    | 20    | 10  | 1     |         |        |           |       |
| Fall 2012 | 38    | 22    | 11  | 3     |         | 1      | 1         |       |
| Fall 2013 | 33    | 21    | 7   | 2     |         | 1      | 2         |       |
| Fall 2014 | 16    | 12    | 3   |       | 1       |        |           |       |
| Fall 2015 | 16    | 16    |     |       |         |        |           |       |

Figure 100: Enrollment for Construction Technology 2005 – 2015  
data from Republic of Palau Bureau of Budget & Planning, 2006 Statistical Yearbook,  
Tables 13.17e & 13.17h, 135 & 137  
data from Republic of Palau Bureau of Budget & Planning, 2015 Statistical Yearbook, Tables 11.21 – 11.21x

Student enrollment numbers for Construction Technology remained relatively consistent from 2005 until Fall 2014, with the approximately 60 - 70 percent of the students Palauan. In Fall 2014 student enrollment fell by 50 percent.

Throughout 2014 - 2015 students enrolled in Construction Technology courses were involved in projects as laboratory work for the courses, to apply technical learning and provide hands-on practical learning. It exposed students to the actual construction work and provided the opportunity to observe and experience work practice on the jobsite.

In fall 2014, the Construction Management students to assist Mr. Cliff Terry, TRB Architect, to site measure a project and transpose the information into a CAD file for estimation purposes. The project exposed the students to the work of architect and the interaction between workers at the jobsite. The

learning outcomes of the course in preparing, estimating, and scheduling construction documents were accomplished.<sup>391</sup>

In Fall 2015 no students from Micronesia enrolled at Palau Community College. This may be because the College Of Micronesia in Pohnpei and Yap offer an Associate of Applied Science in Building Technology, and in Kosrae an Associate of Applied Science in Carpentry is offered. The College of the Marshall Islands in Majuro offers a Certificate of Completion in Carpentry. The College of Micronesia in Chuuk does not offer any program in Building, Construction or Carpentry.

The Architectural Drafting Program was designed to complement the Construction Technology Program. It was originally written for inclusion in the 2008 – 2012 General Catalog. Each of the individual new courses for the program has been approved, but the program itself has not been approved.

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<sup>391</sup> Palau Community College, *2015 Annual Report*, 66  
<http://pcc.palau.edu/wp-content/uploads/2013/07/2015-Annual-Report-Final.pdf>

## ARCHITECTURAL DRAFTING (AD)

This program is for an Associate of Applied Science Degree. It has a combination of Architectural Drafting, Construction Technology, and Business courses that provide the student a balance of technical and business skills which will enhance his/her employability in the construction industry.

### **Program Learning Outcomes (PLO):**

1. *Student will demonstrate drafting skills in residential construction.*
2. *Student will demonstrate design skills in residential construction.*
3. *Student will demonstrate plumbing skills in residential construction.*
4. *Student will demonstrate masonry skill in residential construction.*
5. *Student will demonstrate business and construction management skills in residential construction.*

### **Associate of Applied Science**

#### **Required General Education Courses:**

|    |     |                               |       |
|----|-----|-------------------------------|-------|
| SS | 100 | Introduction to College       | 1     |
| CO | 110 | Introduction to Communication | 3     |
| HP | 180 | Personal & Social Health      | 3     |
| MA | 105 | Intermediate Algebra          | 3     |
| SC | 239 | Natural History of Palau      | 4     |
| SS | 209 | Changes in Micronesia         | 3     |
|    |     |                               | <hr/> |
|    |     |                               | 17    |

#### **Program Courses**

|    |     |   |       |
|----|-----|---|-------|
| AD | 120 | Introduction to Architectural Design and Drafting | 3     |
| AD | 121 | History of Architecture                           | 3     |
| AD | 210 | Computer-Aided Drafting                           | 3     |
| AD | 211 | Healthy House Design                              | 3     |
| AD | 212 | House Working Drawings                            | 3     |
| AD | 213 | Project Management                                | 3     |
| AD | 220 | Architectural Presentation                        | 3     |
| ET | 110 | Basic Electrical wiring for non-majors            | 3     |
| PL | 214 | Residential Plumbing                              | 3     |
| MS | 101 | Basic Masonry/Concrete Work                       | 3     |
| CS | 100 | Computer Literacy                                 | 3     |
| BA | 110 | Introduction to Business                          | 3     |
| BA | 214 | Business Law                                      | 3     |
| BU | 120 | Business Management                               | 3     |
| CT | 113 | Introduction to Construction                      | 3     |
| CT | 222 | Internship  | 4     |
|    |     |   | <hr/> |
|    |     |   | 49    |

*Total Credits Required* 66

Figure 101: Architectural Drafting Program description  
from *Palau Community College 2012- 2016 Catalog*, (Koror, 2012), 55

## Architectural Technology Program

It is proposed that the Architectural Drafting Program be renamed Architectural Technology. The new name better reflects the goals of the program to include Computer Aided Design and Drafting and other current technologies in the building industry.

The Introduction to Architectural Design & Drafting (AD120) and Computer Aided Drafting (AD210) courses, which are currently part of the Construction Technology Program, remain unaltered. The version of AutoCAD (2007) currently used should be updated to a more recent version.

The History of Architecture courses will be rewritten to better reflect architecture that may relate to equivalents in Oceania. It will include the history of the Architecture profession, including American history of the Architecture profession. The course will also provide an overview of architectural education in USA, and demystify process architects' licensure (AIA & IDP). The course will discuss current scientific research on traditional building materials (concrete and coconut products).

### Goals

- To increase the educational opportunities available in construction in Palau/Micronesia, especially to those interested in working in the technical sphere of the construction industry.
- To improve the range of knowledge and skills of Palau Community College construction graduates to better fulfill the needs of the construction industry in Palau/Micronesia.

### Short Term Objectives

- To increase the number of Palau Community College Construction graduates.
- To increase the number of Palauans and Micronesians in the construction industry in Micronesia.

### Long term Objectives

- To increase the number of Palauans and Micronesians in the construction industry in Micronesia.
- To improve the design and quality of buildings, and thereby the quality of life in Micronesia.

## Architectural Technology Courses

### AD121 History of Architecture:

Awareness of why buildings are the way they are; their history, both geographical and cultural, the resources available (or limitations thereof) for their construction – materials, labor, technology, assist in the understanding of the significance of particular buildings. It is anticipated that a greater understanding of architecture will assist in the development of fresh ideas for the building industry in Micronesia. This course is created to cater for people interested in working in the design and technical sphere in the construction industry.

### AD212 House Working Drawings:

There are many careers in the construction industry that require detailed knowledge of construction. This course is created to cater for people interested in working in the design and technical sphere in the construction industry.

### AD211 Healthy House Design:

This course is to inform those people interested in building houses for themselves and their family of the factors that need to be considered when designing a healthy house. It is created to cater for people interested in working in the design and technical sphere in the construction industry.

### AD220 Architectural Presentation:

This course introduces the student to various strategies of assisting the “client” to envisage the concept of the structure described by the construction drawings. It is created to cater for people interested in working in the interactive/communication sphere in the industry.

### AD213 Project Management:

This course concentrates on all the aspects that a successful project manager needs to understand; the people involved in the design and construction process, the principal phases of a



project, and the tools required to effectively manage the people and the project. It is created to cater for people interested in working in the interactive/communication sphere in the industry.

## Curricular Content

### Courses, Credits and Course Descriptions

#### AD120 Introduction to Architectural Design & Drafting (3)

This course introduces the student to manual design/drafting using a tee square and/or drafting machine. The topics covered in this course include freehand sketching as a problem solving and communication tool, introduction to the design process, and elementary design principles. At the completion of this course the student will have the drafting skills necessary to complete a basic set of drawings for a simple house of their own design. Pre: None (3 credits lec)

#### AD121 History of Architecture (3)

This course is to introduce the student to the global history of Architecture, both vernacular and monumental, including discussion about Bai Belau. Pre: None (3 credit lec)

#### AD210 Computer Aided Drafting (3)

This course introduces the student to computer aided design/drafting (CAD) using AutoCAD. At the completion of this course the student will have the AutoCAD skills necessary to complete a basic set of AutoCAD drawings for a simple house of their own design. Pre: CS 100, & BP115/AD120 (2 credit lec, 1 credit lab)

#### AD211 Healthy House Design (3)

This course covers the considerations that must be addressed when designing a house, including social, environmental and ecological factors. The student is guided through the necessary steps from inception, analysis, conceptualization and design development to produce a house of their own design. Pre: A120 & CT113 (3 credit lec)

**AD212 House Working Drawings (3)**

This course covers the considerations that must be addressed when producing working drawings for a house, with an emphasis on structural integrity and construction detailing including weather tightness. The student will complete a set of working drawings for a house of their own design. Pre: AD120 & CT113 (1 credit lec, 2 credit lab)

**AD213 Project Management (3)**

This course concentrates on all the aspects that a successful project manager needs to understand; the people involved in the design and construction process, the principal phases of a project, and the tools required to effectively manage the people and the project. Pre: AD120, CT113, MS101, & BA110 (2 credit lec; 1 credit lab)

**AD220 Architectural Presentation (3)**

This course focuses on architectural presentation documentation, three dimensional illustrations including perspective drawing, color rendering, models, color boards and other tools to create a professional image used to encourage client confidence. Pre: CS100 & AD120 (2 credit lec, 1 credit lab)

**CT113 Introduction to Construction (3)**

This course covers common construction materials, product, and systems as well as construction efficiency and safety in the delivery, handling, and installation of building materials. Information on building materials, product, systems and procedure will be presented. Pre: None (1 credit lec, 2 credit lab)

**MS101 Basic Masonry/Concrete Work (3)**

This course covers measuring, basic plan reading, estimating, masonry tools, mortars, anchors and reinforcement, wall layout, spreading mortar and laying units and related masonry construction. Pre: None (1 credit lec, 2 credit lab)

**ET110 Basic Electrical Wiring for Non-Majors (3)**

This course is designed to provide non-electrical major students with technical knowledge and skills relevant in construction sites. It deals with fundamental concepts of electricity to practical skills required in the workplace. It covers basic safety practices in dealing with electrical works, proper use of basic electrical hand tools, electrical devices and protections, connecting and installing simple electrical circuits and basic wiring for single-family dwelling unit. Pre: None. (2 credit lec, 1 credits lab).

**PL214 Residential Plumbing (3)**

This course covers residential plumbing orientation, plumbing tools and materials, water systems, water valves, faucets and fixtures. Pre: BP115 (2 credit lec, 1 credit lab)

**CS100 Computer Literacy (3)**

This course covers basic information processing and uses of computer including basic application software and the Internet. Topics include basic computer concepts, navigating in a Windows Operating System and computer software including word processing, spreadsheet, and Internet applications, including email. Pre: None (3 credit lec)

**BA110 Introduction to Business (3)**

This course is designed to help students understand small business management from planning to creation and operation. Students will be required to prepare a complete business plan that can be used after graduation starting and managing their own business. This course is ideal for those persons considering starting a business as well as those that are already in business. Pre: None (3 credit lec)

**BA214 Business Law (3)**

This is an introductory course in civil law. Emphasis is placed upon the study of contracts, agency, negotiable instruments, personal property, sales, forms of business organization, partnership, corporations, security transactions, business torts, current ownership of land and goods and real property. Pre: TOEFL (3 credit lec)

**BU120 Business Management (3)**

This course is an overview of management theory that introduces students to various management styles, models, and concepts and helps them to understand the roles and duties of managers in today's business. Contemporary concepts of streamlined organizations, teamwork, and employee empowerment are emphasized, as well as more traditional hierarchical management methods and organizations. Pre: BA110 & EN95 (3 credit lec)

**SS100 Introduction to College (1)**

This course will have two main components: First, it will offer students a variety of methods and suggestions to take control of their college experience and be successful. Second, the course will introduce students to the people and resources at PCC that they may need, and encourage them to investigate ways to make their time in college rewarding and productive. Pre: None (1 credit lec)

**CO110 Introduction to Communication (3)**

This course addresses both theory and skill building, integrating various areas of the discipline, including interpersonal, small group, public speaking, interviewing, and mass communication. Students are introduced to fundamental topics such as the influence of context, elements of perception, effective listening, and verbal and nonverbal communication. Pre: EN95 (3 credit lec)

**HP180 Personal & Social Health (3)**

This course investigates physical and social health issues as related to the individual in a society.

Emphasis is on personal image, personal and community hygiene, social diseases, family planning and narcotics, including alcohol, smoking, and the use of drugs. Pre: EN92 (3 credit lec)

**MA105 Intermediate Algebra (3)**

This course covers linear equations and inequalities, factoring, rational expressions, fractional equations, division of polynomials, system of equations and inequalities, graphs of linear equations and non linear functions, equation of lines, variation, radical expressions and equations, complex numbers, quadratic equations and nonlinear inequalities, composition and inverses of function, and exponential and logarithmic functions. Pre: MA95 (3 credit lec)

**SC239 Natural History of Palau (4)**

This course is about the natural environment of Palau. It introduces the student to the geological formation of the islands of Palau, the significance of oceanic distance between Palau islands and its neighboring islands and continents, and how it influences migration and immigration of terrestrial and marine organisms between islands. Students will better understand and develop appreciation of the importance of the major terrestrial and marine ecosystems to Palau's environment and culture. Students become aware of how island ecosystems function, and more importantly, how they are all interconnected. Through field observations, students gain knowledge and skills in identifying, by their scientific names, of some of the common terrestrial and marine flora and fauna of Palau. Students become aware of the richness of Palau's biodiversity by participating in simple field surveys and monitoring techniques. Through library research, online searches using search engines, and interviews with local experts, students increase their knowledge of some of Palau's indigenous, introduced and endemic species. Students construct public education awareness power point presentations on selected flora and fauna of Palau,

proposing practical solutions to conserve and protect Palau's biodiversity, and present to their peers. Pre: Reading level of 8th grade or higher or EN092, and EN095, and CS100 (3 credit lec, 1 credit lab)

**SS209 Changes in Micronesia (3)**

This course covers the structure and operation of the present government structure in Micronesia. It covers foreign influences upon the cultures in Micronesia and the effect on the development of the present forms of government in the regional political entities.

Pre: Minimum TOEFL score 450 (3 credit lec)

**CT222 Internship**

This course provides the student practical training in construction work. With the assistance of an instructor-coordinator, the student is assigned to work under a supervisor in a governmental department or a private business in order to learn through the actual work experience. Pre: Advisor's Consent (4 credits lab)

**CT223 Service Learning**

Service-Learning is a process by which students learn through active participation in an organized service conducted in and meeting the needs of the community. Service-Learning is integrated into and enhances the academic curriculum. Service-Learning emerges from experimental learning theory and encourages active student involvement in the learning process. Pre: Instructor's consent (4 credit lab).

|        | Design | Technology   |   |  | Business                                   | Social Science                        | Science                                 | Credits                           |
|--------|--------|--|---|--|--|---------------------------------------|---|-----------------------------------|
| Year 1 | Fall   | AD120 (3)<br>Introduction to Architectural Design & Drafting | CT113 (3)<br>Introduction to Construction           |  | CS100 (3)<br>Computer Literacy             | BA110 (3)<br>Introduction to Business | SS100 (1)<br>Introduction to College    | MA105 (3)<br>Intermediate Algebra |
|        |        |  |   |  | OA95                                       |                                       | MA95                                    | 16                                |
| Year 2 | Spr    | AD121 (3)<br>History of Architecture                         | ET110 (3)<br>Basic Electrical Wiring for non-majors |  | CO110 (3)<br>Introduction to Communication | BU120 (3)<br>Business Management      | HP180 (3)<br>Personal and Social Health | 15                                |
|        |        |  |   |  | EN95<br>(Developmental English)            |                                       | EN92<br>(Basic Reading Skills)          |                                   |
| Year 3 | Fall   | AD211 (3)<br>Healthy House Design                            | PL214 (3)<br>Residential Plumbing                   | MS101 (3)<br>Basic Masonry/Concrete Work | BA214 (3)<br>Business Law                  | SS209 (3)<br>Changes in Micronesia    |   | 15                                |
|        |        | AD120, CT113   | BP115 or AD120                                      |  | Min TOEFL 450 score                        | Min TOEFL 450 score                   |   |                                   |
| Year 3 | Spr    | AD210 (3)<br>Computer-Aided Design                           | AD212 (3)<br>House Working Drawings                 | AD213 (3)<br>Project Management          | AD220 (3)<br>Architectural Presentation    |                                       | SC239 (4)<br>Natural History of Palau   | 16                                |
|        |        | AD120  | AD120, CT113  | AD120, CT113, MS101, BA110               | AD120, CS100                               |                                       | SC90                                    |                                   |
| Year 3 | Sum    |  | CT222 (4)<br>Internship                             |  |  |                                       |   | 4                                 |

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Figure 102: Architectural Technologies Program Chart.



## **Course Proposal: History of Architecture**

### **Introduction**

#### **Rationale**

Awareness of why buildings are the way they are; their history, both geographical and cultural, the resources available (or limitations thereof) for their construction – materials, labor, technology, assist in the understanding of the significance of particular buildings.

This course has been developed to give students exposure to different geographic and cultural buildings to broaden their perspective of architecture and the construction industry. It is envisaged that this course will awaken their interest in current overseas architecture.

It is anticipated that a greater understanding of architecture will assist in the development of fresh ideas for the building industry in Micronesia.

#### **Relationship to other Courses and/or Programs**

This is an introductory course to promote an awareness of buildings from other cultures. It is envisaged that this new awareness will influence design concepts in AD211 (Healthy House Design), AD212 (House Working Drawings), and AD220 (Architectural Presentation)

#### **Course Description**

This course is to introduce the student to the global history of Architecture, both vernacular and monumental, including discussion about Bai Belau.

### Target Group/Class Size

There are many careers in the construction industry that require detailed knowledge of construction. This course is created to cater for people interested in working in design and technology.

It is anticipated that the proposed classroom can accommodate 12 students.

## Course Outline

### HISTORY OF ARCHITECTURE

AD 121.

Course Title

Dept. & Course No.

#### I. COURSE DESCRIPTION:

This course is to introduce the student to the global history of Architecture, both vernacular and monumental, including discussion about Bai Belau.

II. SEMESTER CREDITS: 3

III. CONTACT HOURS PER WEEK: 3

Lecture

IV. PREREQUISITE: None

#### V. STUDENT LEARNING OUTCOMES:

Upon completion of this course, the student will be able to, with 65% accuracy to:

1. Explain the term Prehistory; identify and describe examples of prehistoric architecture.

#### VI. COURSE CONTENT:

##### A. Examples of prehistoric architecture:

1. Nan Madol, Pohnpei
2. Ulong, Palau
3. Ngardmau Terraces, Palau
4. Badrulchau, Palau
5. Skara Brae, Scotland

2. Explain the term Cave Dwelling;  
identify and describe examples of cave dwelling architecture.
  3. Explain the term Stone age;  
identify and describe examples of stone age architecture.
  4. Explain the term Nomads;  
identify and describe examples of nomadic architecture.
  5. History of Concrete
  6. Explain the term Iron age;  
identify and describe examples of architecture from the iron age.
  7. Explain the term Industrial age (steel);  
identify and describe examples of architecture from the time of the industrial revolution.
6. Stonehenge, Britain
  7. Easter Island
- B. Examples of cave dwelling architecture:
    1. Ulong, Palau
    2. Agri Dagi, Turkey
    3. Mesa Verde, Colorado
    4. Petra, Jordan
  - C. Examples of stoneage architecture
    1. Ngardmau Terraces, Palau
    2. Papua New Guinea
    3. Machu Picchu
    4. Ulong, Palau
  - D. Examples of nomadic architecture
    1. Native American tipis
    2. Arabian Al Beit Issha'ar
    3. Gypsy Caravans
  - E.
  - F. Examples of architecture from the iron age
    1. Angkor Wat Temple, Cambodia
    2. Hagia Sophia, Turkey
  - G. Examples of architecture time of the industrial revolution
    1. Crystal Palace

- |   |   |
|---|---|
|   | 2. Railway station  |
|   | 3. Empire State Building  |
| 8. Identify and describe examples of Oceanic Architecture   | H. Examples of Oceanic architecture                                   |
|   | 1. Bai Belau  |
|   | 2. Pohnpeian nahs   |
|   | 3. Maori marae, meeting house and pa                                  |
| 9. Explain the term Colonialization; identify and describe examples of architecture from the time of colonization | I. Examples of architecture from the time of colonization             |
|   | 1. Colonization of Palau –<br>Spanish, German, Japanese, and American |
|   | 2. British colonization of New Zealand                                |
| 10. Describe and comment on remarkable recent off island buildings.   | J. Examples of architecture of recent off-island buildings            |
|   | 1. TBA from current architecture journals in the PCC Library          |
| 11. History of the Architecture Profession:   | K. Examples of architects though millennia                            |
|   | 1. Imhotep  |
|   | 2. Vitruvius  |
|   | 3. Corbusier  |
|   | 4.  |
| 12. How to Become a Licensed Architect; The AIA Registration Process  | L. Overview of The AIA Registration Process                           |

## VII. EQUIPMENT AND MATERIALS

Routine classroom materials

## VIII. TEXT AND REFERENCE

### Required Text:

Republic of Palau, Rock Islands Lagoon Nomination for Inscription on the World Heritage List, 2011

Instructor's made handouts.

### Supplementary References:

Fletcher, Sir Banister *The History of Architecture*, Elsevier, Oxford, 2006

## IX. METHODS OF INSTRUCTION

Lecture

Discussion

Student projects and presentations.

## X. METHOD OF EVALUATION

Lecture presentation is tested by written tests.

Four criteria used in evaluating projects and operation performance are:

Accuracy/precision

Techniques

Appearance

Completion

The components used in the computation of the final grades are:

|                              |     |
|------------------------------|-----|
| Classwork/participation..... | 10% |
| Homework/assignments.....    | 20% |
| Quizzes.....                 | 10% |
| Mid term and final test..... | 30% |
| Final project.....           | 30% |

The transmutation of percentages to letter grades are:

|                |   |
|----------------|---|
| 90 – 100%..... | A |
| 80 – 89%.....  | B |
| 70 – 79%.....  | C |
| 65 – 69%.....  | D |
| 0 – 64%.....   | F |

## Palauan Skilled Workforce Investment Act

In his State of Republic Address in April 2013 President Remengesau said,

“Moreover, some of the focus of our educational priorities must be shifted towards more vocational training. I have already introduced legislation on this issue, the Palauan Skilled Workforce Investment Act. This act will create a certification program through Palau Community College that will provide businesses a degree of confidence in hiring Palauans who pass the certification program. The certification program will be focused upon developing a skilled Palauan workforce in those areas that are currently dominated by foreign workers, such as: electrician, mechanic, and plumbing.”

Palau Community College currently has programs for certification of electrical, automotive mechanics and construction technologies. Palau Community College has Associate of Applied Science Degrees for:

- Automotive Body Repair
- Automotive Mechanics Technology
- Construction Technology
- Electrical Technology

Palau Community College has Certificates of Competence for:

- Construction:
  - Plumbing
  - Masonry
  - Carpentry
- Electrical:
  - Motor/Motor Control



- Residential Wiring
- Commercial/Industrial Wiring
- Electrical Machine Rewinder

Palau Community College has Construction Technology Certificates of Completion for:

- Carpentry
- Field Construction
- Masonry/Concrete Construction
- Exterior Trimming & Cabinet Making
- Residential Wiring
- Residential Plumbing

Palau Community College also has Continuing Education Non-Credit Courses in Construction

- Building Traditional Huts
- Designing Concrete Mix
- Designing Stand Alone Septic Tanks
- Thatching Nypa Leaves
- Log Construction
- Site Preparation & Layout and Footing & Foundation
- Basic Residential Wiring and Trouble Shooting
- Basic Plumbing
- Plastering
- Rebar work
- Form Building
- Laying Blocks

- Block Making
- Mixing Concrete
- Concrete Estimation
- Concrete Fundamentals
- Basic Leveling
- Residential Cost Estimation
- Residential Water Tank Construction
- Basic Masonry

Perhaps President Remengesau is intimating that there is lack of confidence in the business community of the quality of the graduating students from the programs. Or perhaps he is reinforcing the need of the increase in the minimum wage to encourage Palauans to work in those occupations.

Perhaps President Remengesau's Palauan Skilled Workforce Investment Act and Palau Community College are targeting the Workforce Investment Act of 2013 (HR798) of March 2103 for funding. The Workforce Investment Act of 2013 (HR798), Section 181. Community College to Career Fund states that entities eligible for funding are community colleges or "at the discretion of the Secretaries, a private not-for-profit two-year institution of higher education in Puerto Rico, Guam, the U.S. Virgin Islands, American Samoa, The Northern Mariana Islands, the Marshall Islands, Micronesia or Palau." If funding for Palau Community College's vocational programs was provided through the Workforce Investment Act, perhaps it would enable funds allocated for education in the governments existing budget to be reallocated elsewhere.

## Summary and Conclusion

To understand the nuances of a culture it is important to engage in it. Non-Palauans may have an overview of Palauan culture, but academic knowledge and understanding is a different perception and perspective than lifeways. Culture is constantly evolving and changing. It is Palauans themselves who choose the direction and set the course for their culture.

Although the writings of Peter Barker are technically from the time of contact, they are descriptions of events that befell the shipwrecked crew and of Palau as they perceived it without prior intrusion and interference by colonizers. However, the presence of a Malay speaking person in Koror's community testifies that the English were not the first non-Palauan people to arrive. Although Henry Wilson was captain of the *Antelope* when it was wrecked on the reef off Ulong in 1793, maritime protocol at the time was "that when a merchant ship is wrecked, all authority immediately ceases, and every individual is at full liberty to shift for himself."<sup>392</sup> The survivors of the shipwreck *Antelope* elected Henry Wilson to continue as their leader. Henry Wilson and his crew learnt much about the Palauans of Koror in the months they spent building a new ship.

There were several similarities between the English and the Palauans. The leaders of both groups were elected, and family played prominent roles in the political interactions between the groups. Two of Ibedul's brothers were among the first people to meet the English.<sup>393</sup> Henry's brother, Matthias, was the first Englishman to meet with Ibedul in Koror.<sup>394</sup> Ibedul's hospitality and generosity enabled the English to successfully navigate cross cultural challenges and secure assistance to build a schooner to leave.<sup>395</sup>

The people of Koror also benefited from the meeting of cultures. The Palauans were quick to recognize the superior technology possessed by the English, and were eager to acquire it to. Ibedul

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<sup>392</sup> Keate, *An Account of the Pelew Islands*, 105

<sup>393</sup> Keate, *An Account of the Pelew Islands*, 76

<sup>394</sup> Keate, *An Account of the Pelew Islands*, 81

<sup>395</sup> Keate, *An Account of the Pelew Islands*, 105

convinced Henry to make available five men and their muskets to assist Koror in their battles against Melekeok. They used the fire power to advantage, but did not annihilate the enemy as there were warfare protocols they observed.

In his maps of Melekeok and Koror, Augustin Kramer shows distinctive features in the landscape; the ocean, the reef, the lagoon, the mangrove forests and the land. He shows the distinctive manmade elements in the landscape; the causeway, the jetties and channels, the pathways, the buildings and taro fields. Augustin Kramer's map of Koror indicates Metukerariang, the location of the fresh water spring for drinking water, and the separate bathing pools for the men and women's ablutions. From his maps it may be noted that in Palau in 1908 – 1910, only the German missionaries were associated with the villages, on the periphery of their communities. However, Augustin Kramer's maps, drawings and photographs do not describe the stories of ordinary every-day life; they are a selected snap shot of a particular moment in time.

The bai were physically the most imposing buildings within the beluu. Their construction and symbolism are complex. Traditional bai were of local materials fashioned into a structure sufficiently flexible to withstand tropical typhoons. The basic structure was of interlocking lumber elements lashed together with twine made from coconut husk. As with rigging on their canoes, the life and safety of the occupants depended on the quality and strength of the rope and bindings. Coconut husk fibers are among the strongest known natural fibers. By twisting coconut husk fibers, which are typically four to twelve inches long, together coir rope is produced. Coir rope is relatively water proof and is one of the few natural fibers resistant to damage by saltwater. The relevance of this to the new Architectural Drafting Program is the importance of small, seemingly insignificant details. Without coir rope, traditional buildings would not be as safe; by crossing the rope, the lashing patterns are functionally strong, as well as decorative.

The function of the building and its materiality, sustainability and resilience are important considerations. Perhaps the rafter connection detail at the apex enables some minor movement – whether

this movement is beneficial in typhoon wind conditions is open for conjecture. Whether the length of the rafters provide safety from collapse by spanning across the exterior walls is worthy of further investigation.

Education works both ways; students are guided in their learning by their instructor, and the instructor is guided by the students and their community in what they need to learn. Traditional / pre-contact Palauan education is relevant to the new Architectural Drafting Program for the incorporation of different learning methods, as practiced traditionally, which include learning through visual, auditory and kinesthetic techniques. When Ibedul's brother visited Henry Wilson's ship building site in 1793, he learned much from watching the crew of the shipwrecked *Antelope* work. He observed, asked questions and then attempted to replicate the task. Different people learn better through different media; some learn better through watching demonstrations, others through hearing stories, while others through practical trial and error. Utilizing all these methods, and combining them, increases the possibility of more inclusive learning for greater numbers of students.

The new curriculum encourages the recognition of new materials and technologies to integrate with existing knowledge. When the *Antelope* was wrecked on the reef off Ulong, the Palauans were quick to recognize the superior technology possessed by the English, and were eager to acquire it to. Ibedul convinced Henry Wilson to make available five men and their muskets to assist Koror in their battles against Melekeok. The fire power was used to advantage, but because of their traditional warfare protocols, they did not annihilate the enemy.

Education is more than academia; it encompasses the capacity of putting knowledge to practical use. In 1953, William Vitarelli, Educational Administrator in Palau, wrote, "The amassing of facts through formal schooling or the acquisition of knowledge is only one part of the process of becoming educated."<sup>396</sup> The incorporation of holistic teaching methods, as practiced traditionally, which combine theoretical learning with practical application and mastery of skills is a consideration of the new program.

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<sup>396</sup> Vitarelli, *Educational Bulletin No. 1*, 1

Many people have been enculturated to believe that a college education will ensure them a good job. Unfortunately, many have learnt that that is not necessarily true, particularly when their college education was academic rather than skills based. Collaboration with the business community is necessary to ensure that the knowledge and skills learnt in school and college are applicable within the business community. A partnership to create a type of apprenticeship that integrates the program into the business community and balances school learning with on the job application and learning would be beneficial for everyone. As many students cannot visualize how what they learn in class relates to the “real world” of work, this association would enable students to work and contribute within their community while they are still in college. It would ensure that businesses acquire capable student employees with good credentials and whom they could help train to suit their own individual needs.

It is envisioned that the program will include; hands on experience, site visits, and guest speakers. It may also include internet searches for simulated site visits, internet searches on new materials and technologies, or new uses for traditional materials, computer simulated exercises and Skype discussions with respected knowledgeable elders.

Although the American schooling/education system emulates the club system of peers as an institution for learning, it implements mainly the theoretical and intellectual aspects of education, without their practical application. In many Euro-American colleges, their programs have lengthy post-graduation internships requirements. America’s National Council of Architectural Registration Boards (NCARB) requires a minimum of 5600 IDP hours (Intern Development Program) of experience prior to eligibility for licensure as an architect.<sup>397</sup> A minimum of 3,740 IDP hours are required in four experience categories: Pre-Design, Design, Project Management, and Practice Management. These minimum hours must be satisfied within the seventeen experience areas encompassed in the experience categories.<sup>398</sup>

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<sup>397</sup> National Council of Architectural Registration Boards, *“Intern Development Program Guidelines.”* 2012 ,12

<sup>398</sup> *Idp guidelines*, 12

This thesis proposes wholistic approach to education where traditional methods of Palauan education are honored by incorporating them into contemporary education in Palau. Effective learning of skills/crafts/professions is fostered by simultaneous learning theory while engaging in their operations. This makes education the responsibility of not only the instructors, but of the entire community. Academic learning and theory may be accomplished under supervision of elders/experts/ qualified teachers, but their practical applications are implemented within the community.

The existing elementary, high school, and junior college education system in Palau may be considered a contemporary equivalent of traditional “clubs” where peers learned and practiced their work/skills. However, the focus of the current education system appears to be academic study and the accumulation of knowledge for the benefit of the individual, rather than for the benefit the community, which is contrary to traditional custom. Accumulated knowledge is most useful when employed in practical applications. Many students enter college with the belief that they are learning work skills, only to be disillusioned after graduation that their college degree does not guarantee them a job.

This thesis considers Palau Community College’s Architectural Drafting Program, and how it can be made more appropriate for Palau. The challenge is to recommend modifications to the program which will improve the benefits of student learning outcomes while maintaining sufficient rigor to facilitate cross credits at affiliated off-island colleges.

Student learning may include students gaining practical experience while working on community projects for the benefit of the community at large or needy individuals within the community. The student’s work skills are established within the community which is involved in the learning process. This could be considered a community/public apprentice-type environment, which may lead to apprenticeship/employment in the public/private sector.

## Appendix A

### Literature Review:

Many traditional Palauan life patterns as described in *Micronesian Resources Study, Palau Ethnography Rechuodel: Traditional Culture and Lifeways Long Ago in Palau* are still practiced today. *The New Shape of Old Island Cultures: A Half Century of Social Change in Micronesia* describes the changes and dilemmas faced by people of many Pacific Island nations. It confirms observations that many traditional practices still occur in contemporary Palauan lifeways.

Contact between Palauans and people from the west has been well documented by the visitors. The descriptions of their observations of Palau and Palauan life as described in their logs and diaries and transcribed into book form is a valuable resource of data on the responses and effects of their intrusion. *The Shipwreck of the Antelope East India Packet and An Account of the Pelew Islands* was written from the logs and diaries of the crew of the first documented contact between the English and Palauans. *The Trading Voyages of Andrew Cheyne 1841-1844* was from Andrew Cheyne's hand-written manuscript for a book of his observations harvested from his ship's log fifty years after first contact.

*The Palau Islands in the Pacific Ocean* and *Ergebnisse der Sudsee-Expedition 1908-1910* were both originally written in Germans. *The Palau Islands in the Pacific Ocean* is a Carl Semper's conversational narrative of his experiences during his eleven months stay on Palau. When this thesis began, only portions of *Ergebnisse der Sudsee-Expedition 1908-1910*, a comprehensive multi volume anthropological study, had been translated into English. Honorarkonsul der Bundesrepublik Deutschland (Honorary Consul of the Federal Republic of Germany) in Koror helped coordinate the translation into English of the complete works. Many houses in Palau are built with concrete/concrete block with a flat concrete slab roof because of the perceived permanence of concrete, with little consideration of the thermal consequences. Much of what we know about alternative methods of thermal control in architecture has been learned over millennia by trial and error in indigenous vernacular architecture; the creation efficient/effective (comfortable) micro-climates



using the best available resources. Technological advances in thermal control have led to the creation of interior environments where temperature and humidity is artificially regulated, and much traditional knowledge has been lost.

In extreme cases, artificially regulated thermally controlled (air conditioned) interior environments are divorced from, and no longer relate to environment/climate. The cost of maintaining air conditioning is high; both economically and socially (Palau is powered by oil generated electricity.)

Although the books; *Sun, Wind & Light: Architectural Design Strategies*, *Climate Responsive Design: A study of Buildings in Moderate and Hot Humid Climates*, and *Stay Cool: A Design Guide for the Built Environment in Hot Climates* has not be used in the body of this thesis, they are included in this literature review because they are integral for the writer's background knowledge in the rewriting of PCC's proposed Architectural Drafting Program. The three books use principles practiced in vernacular architecture to create a comfortable environment. By returning to, and analyzing the *Bai*, we may learn which elements Palauans traditionally used to create a pleasant microclimate. They may be similar to those described in the books, and by applying those principles as our technical base perhaps we can design a sustainable comfortable Palauan house. Replication of the construction materials and techniques is not necessarily being advocated, but the distillation of the concepts and social ethics of building: the carefully managed use of sustainable resources; both materials and labor is.

### Pre-Contact (Historic) Palau:

The investigation is intended to discover the traditions and culture of pre-contact and early contact Palau, including an overview of work, traditional government, education and environmental protection practices. As Palau was an oral culture, much of the literature and documentation identified necessarily includes books/manuscripts, note books and illustrations by early visitors.

### Peter Barker, *The Shipwreck of the Antelope East India Packet*

This 1788 book is in the University of Hawaii at Manoa, Hamilton Library, Hawaii Pacific Collection rare books collection. Although the book has no actual documented author it has been attributed to Peter Barker, who was one of the English officers on the “Antelope”. The book, which reads like a ship’s log, is a record of significant events of the shipwreck and the author observations of the encounters between the English and Palauans. It is a bound book printed in old type; some of the letters “s” appear as “f”s. Because this book was published around the same time as George Keate’s first editions, some scholars believe it may be a pirated copy.

### George Keate, *An Account of the Pelew Islands*

George Keate wrote this book from materials made available to him by Captain Wilson from his ship’s log and other documentation. Although the book was vetted by Captain Wilson before it was published, it must be considered a second-hand account. The University of Hawaii at Manoa, Hamilton Library, Hawaii Pacific Collection has several editions of this book in its rare books collection. In 1788, the first and second editions in English were printed in London, a French edition was printed in Paris by Chez Maradan, and an abridged version was printed in Perth by R. Morrison. In 1789 the third and fourth editions in English were printed in London, a Dutch edition was printed in Rotterdam by G Arrenberg and German edition was printed in Hamburg by BG Hoffman.

The edition of *An Account of the Pelew Islands* used for this thesis is the 2002 edition edited by Karen Nero and Nicholas Thomas. There are variations in the images between the different editions; portraits of Captain

Wilson and Lee Boo are mirror images of the portraits in early editions; their waistcoat and jackets button up from the other side.

The “Antelope” was a wooden barque, ninety six feet eight inches long and twenty five feet seven and a half inches wide, had a seventy seven feet six inches keel and a twelve foot hold. It was two hundred and seventy tons and had a fifty two crew.<sup>399</sup>

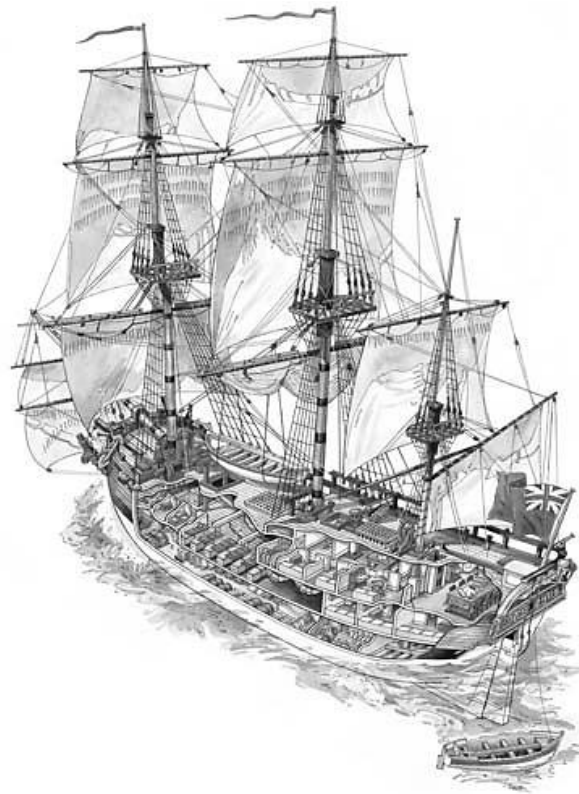


Figure 103: Cutaway drawing of a barque

By David Hobbs, <https://www.flickr.com/photos/anmm/3655257119/in/photostream/>

In addition to his descriptions of the same event in Palau as Peter Barker's book, the story of Lee Boo, and descriptions of Palauan culture and artifacts were included. George Keate's descriptions of the bai and blai

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<sup>399</sup> "Wreck Site," last modified by Jan Lettens January 26, 2010, accessed September 13, 2012, <http://www.wrecksite.eu/wreck.aspx?138954>

are confusing. *The Supplement to the Account of the Pelew Islands* written by John Pearce Hockin included in this edition describes subsequent journeys by the English to Palau.

Elizabeth Rechebei and Samuel McPhetres. *History of Palau: Heritage of an Emerging Nation*.

This book was written for Palau's Ministry of Education as a text book "with a Palauan voice and perspective of its place in history that reflects pride in heritage and self determination"<sup>400</sup> It provides an excellent overview of historic events in Palau. It covers Palauan prehistory from possible original migratory settlement until the time it was published in 1997. The Constitution of the Republic of Palau, 1979 which is included as Appendix A has recently been ammended.

DeVern Reed Smith, *Palau Ethnography Rechuodel*:

*Traditional Culture and Lifeways Long Ago in Palau*.

DeVerne Reed Smith, *Palau Ethnography Volume 2*:

*Recommendations for the Preservation of Historic and Cultural Resources in Palau*

There are Palauan elders with traditional knowledge learnt from their elders. Interviews with them and the archeologist working on Babeldoab may reveal useful information.

Force, Roland, and Maryanne Force. *Just One House*:

*A Description and Analysis of Kinship in the Palau*

Palau Conservation Society, *Fact Sheet: Traditional Authority in Palau*.

The Palau Society of Historians. *Traditional Leadership in Palau*.

Early Contact:

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<sup>400</sup> Rechebei and McPhetres, *History of Palau*, ii

The investigation is intended to discover the traditions and culture of early contact Palau, including an overview of traditional government, finances, education, land tenure and environmental protection practices. Literature and documentation identified include books/manuscripts, note books, illustrations and photographs by early visitors (in German, for which translations are expected to be completed this year).

### The Trading Voyages of Andrew Cheyne 1841-1844

The original manuscript for this book was hand written by Andrew Cheyne in two exercise books which were found among his papers after his death. In it he distilled his accounts from logs and journals of his journeys.<sup>401</sup> Just over a hundred years later it was published.

Andrew Cheyne's background is important in understanding his bias. He was born in the Shetland Islands in 1817, the illegitimate son of James Cheyne. He was raised in the Cheyne household, and educated as the laird's son.<sup>402</sup>

The Cheynes operated a substantial fishing business. Their fishing tenants would land fish at Tangwick where it was processed, and loaded onto one of their three ships for export to the continent. This practice is what Andrew attempted to replicate when he was trading beche-de-mer in the Pacific islands.<sup>403</sup>

Because as a trader he had to ascertain and conform to local customs and protocols, and their consumer preferences as his customers, he was able to give a realistic account of the people with whom he traded.<sup>404, 405</sup> The paramount chiefs exercised considerable control over his trading practices. Ultimately Andrew Cheyne was slain by Palauans for violating too many of their protocols in his attempts to generate wealth.

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<sup>401</sup> Shineberg, *The Trading Voyages of Andrew Cheyne*, 1

<sup>402</sup> Shineberg, *The Trading Voyages of Andrew Cheyne*, 3

<sup>403</sup> Shineberg, *The Trading Voyages of Andrew Cheyne*, 4

<sup>404</sup> Shineberg, *The Trading Voyages of Andrew Cheyne*, 7

<sup>405</sup> Shineberg, *The Trading Voyages of Andrew Cheyne*, viii

## Karl Semper, *The Palau Islands in the Pacific Ocean*

The original version of this book was written in German by Karl Semper in 1873, and translated by Mark Berg in 1982. It is conversational narrative, distilled from his notebooks and diaries, of his observations and experiences during his eleven months stay on Palau. Karl Semper's training in as a zoologist / animal ecologist had honed his observation and recording skills.

Karl Semper lived onshore with the Palauans in Aibukit (Ngbuked) while Captain Woodin had the *Lady Leigh* made sea worthy. During his stay, he collected and "scientifically prepared and packed mussel shells, insects, worms, and all manner of other marine animals"<sup>406</sup> from the coral reefs for his studies on the influence of the environment in animal organisms (his book *Animal Life as Affected by the Natural Conditions of Existence*).

In Appendix I, Concerning the Extinction of the Palau Islander, Karl Semper explains how he calculated the estimated pre-contact population of Palau as between 40,000 and 50,000 people, and expressed his concern that the current population had shrunk to less than 8,000.<sup>407</sup>

"Is that our celebrated cultural mission around the world? That the spread of our civilization requires that we first eliminate those peoples who cannot bear it?"<sup>408</sup> "We were fools to believe that we could talk them into loathing their old, ancestral customs. I did not notice that I had done what I had so often criticized our missionaries for doing."<sup>409</sup>

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<sup>406</sup> Semper, *The Palau Islands in the Pacific Ocean*, 85

<sup>407</sup> Semper, *The Palau Islands in the Pacific Ocean*, 289 - 290

<sup>408</sup> Semper, *The Palau Islands in the Pacific Ocean*, 111

<sup>409</sup> Semper, *The Palau Islands in the Pacific Ocean*, 266

## Augustin Kramer, Ergebnisse der Südsee-Expedition 1908-1910

### ( Results of the South Seas Expedition)

The Hamburg Südsee-Expedition was initiated by Dr Georg Thilenius, Director of the *Museum für Völkerkunde* in Hamburg. The aim of the expedition was to observe and record traditional practices of old, indigenous cultures which were believed to be in danger of extinction.<sup>410</sup> It was one of Germany's best sponsored ethnological studies. There were 29 volumes on the results of the expedition published between 1911 and 1954.<sup>411</sup> Although the five volumes on the results of the expedition in Palau are credited to Augustin Kramer, Elisabeth Kramer contributed significantly to various sections with her notes and illustrations. In his Forward in Volume I, Augustin Kramer writes

Her field was not only drawing and painting, but also the exploration of the life of women, their work, housekeeping and cooking, etc. I owe her so much that a great deal of the material should really be published in her own name. The reason for not doing so is that her observations and suggestions impact my work in other ways as well. Therefore, I place her name next to Kubary's in the acknowledgements.<sup>412</sup>

Augustin and Elisabeth Kramer frequently left the research ship to live among the islanders, in a tent or in rented huts or in one of the many bai.<sup>413</sup> They received help and support of former guide and translator William Gibbon, a Caribbean-Micronesian half-caste.<sup>414</sup>

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<sup>410</sup> Mark Berg, "The Wandering Life among Unreliable Islanders: The Hamburg Südsee-Expedition in Micronesia." *The Journal of Pacific History*, 1988: 95 - 101 Accessed November 28, 2013. <http://www.jstor.org/stable/25168948>

<sup>411</sup> Sven Mönter, "Dr. Augustine Kramer: A German Ethnologist in the Pacific." (Belau National Museum, 2010), 82 [http://www.belaunationalmuseum.net/exhibits/indoor/germany/pdf/Dr. Augustin Kramer.pdf](http://www.belaunationalmuseum.net/exhibits/indoor/germany/pdf/Dr._Augustin_Kramer.pdf) (accessed November 22, 2014).

<sup>412</sup> Augustin Kramer

<sup>413</sup> Mönter, "Dr. Augustine Kramer," 189

<sup>414</sup> Mönter, "Dr. Augustine Kramer," 192

Kramer conceive it his duty to collect as much information and artefacts during his travels through the Pacific as he could before the inhabitants would fade away. Although Kramer remained a keen collector of ethnographic artifacts throughout his travels, the collection of myths, stories, songs and dances, genealogies and other ethnographical information became the predominant object of his field work.<sup>415</sup>

"a peculiar blend between a great organiser and scientist and a less pleasing person".<sup>416</sup>

In Samoa Kramer became aware that the growing European influence on island life was changing and destroying indigenous customs and culture. Realising the decline of Samoan culture Kramer's developing interest in Völkerkunde (ethnology) was triggered.<sup>417</sup>

Realising that the social and cultural structures of Samoa were subject to increasing change, Kramer saw it as his duty as a scientist to preserve an insight into the Samoan culture as he had found it.<sup>418</sup>

Kramer, therefore has to be regarded as a pioneer ethnologist. It needs to be remembered that Kramer was certainly not an ethnologist in the present meaning of the word, nor had he received any training in this area (as it did not exist). Instead, he was an autodidact who developed his own methodology as he went along.<sup>419</sup>

On their arrival in Palau on 15 December, The Kramers decided to remain on the island while the Seestern made a trip to the island of Pul. The ship was to pick them up again four days later. While on Palau the Kramers stayed at the house of station officer Wilhelm Winkler at Malakal Harbour. During their brief stay Kramer did some phonographical recordings as well as some anthropometrical measurements.<sup>420</sup>

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<sup>415</sup> Mönter, "Dr. Augustine Kramer," 19

<sup>416</sup> Mönter, "Dr. Augustine Kramer," 22

<sup>417</sup> Mönter, "Dr. Augustine Kramer," 41

<sup>418</sup> Mönter, "Dr. Augustine Kramer,"

<sup>419</sup> Mönter, "Dr. Augustine Kramer," 91

<sup>420</sup> Mönter, "Dr. Augustine Kramer," 117



April 1907 (2 months) After the departure of the Planet on April 28, the Kramers moved to the island of Bablidaob. Together with their three servants (a half-caste from Yap named Johannes, who worked as their cook, and the two Palau islanders Mangelil and "Otto" a Umang) , the couple took quarters in a bai near a Spanish mission station. Thereby 'Otto' a umang, who had learned his German from some Kapuziner (Capuchin) missionaries, worked as their translator.<sup>421</sup>

July 1907 left <sup>422</sup>

During the German Administration of the Pacific islands, a South Sea Expedition was organized by the Hamburg Museum. Anthropologists studied the people and culture Augustin Kramer was an ethnographer when ethnography was in its infancy. He developed his own methods of study in Samoa.

Initially, for the purposes of this research document, attempts were made to translate some sections using Google Translate. As the results were unsatisfactory, much reliance has been placed on interpreting images from Kramer's volumes.

All five volumes are written in German, with few translations of different sections currently available.

Fortunately, translations of the five volumes are now available through the Belau National Museum, Eptison Museum and Palau Community College Library.

For the purposes of this research document, attempts were made to translate some of the sections using Google Translate. As the results were unsatisfactory, much reliance has been placed on interpreting images from Kramer's volumes.

Ergebnisse der Südsee-Expedition 1908 – 1910

II. Ethnographie: B. Mikronesien Band 3

2. Teilband: Abteilung II: Siedelungen, Bezirke, Dörfer, Verfassung

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<sup>421</sup> Mönter, "Dr. Augustine Kramer," 124

<sup>422</sup> Mönter, "Dr. Augustine Kramer," 127

Results of the South Sea Expedition 1908 - 1910

Ethnography II: B. Micronesia Volume 3

2 Subband: Division II: settlements, districts, villages, ConstitutionEthnography II Micronesia Volume 3

Sub Volume 5 Section X: Bai

II. Ethnographie: B. Mikronesien Band 3

5. Teilband: Abteilung X: Bai verzeichnis

Ethnography II: B. Micronesia Volume 3

5 Subband: Department X: Bai directory

*Aufzählung der guten mit Bildern geschmückten Bai*

Sub Volume 5 Kramer catalogs one hundred and fifty three bai; one hundred and fifty in Palau and three in Germany – Berlin, Hamburg and Stuttgart.

Palau Community Action Agency. *A History of Palau Volume One: Traditional Palau, The First Europeans*

This was one of the first history books written in Palau for use as a text book for Palauan High Schools. It is the first volume of what was intended to be a series of four.

**Colonialization:**

The investigation is intended to discover the impact of the Spanish, German, Japanese and Americans on Palau, considering land tenure, housing, food production and technology.

Elizabeth Rechebei and Samuel McPhetres. *History of Palau: Heritage of an Emerging Nation*.

As above.

Palau Community Action Agency. *A History of Palau Volume Two:*

Traders and Whalers, Spanish Administration, German Administration.

Palau Community Action Agency. A History of Palau VolumeThree:

Japanese Administration, US Naval Military Government.

These two volumes were of the set of what was originally intended to be a series of four volumes for use as a text book for Palauan High Schools. However, because the decision was made not to write Volume Four, some contents intended for it were included in Volume Three as Chapter Ten. Palau's stories in the series ends at the summer of 1947.

Francis Hezel and Mark Berg. Micronesia: Winds of Change: A Book of Readings on Micronesian History

Francis Hezel. The First Taint of Civilization.

Land Use:

Investigation into the use of natural resources; the protection and exploitation of the land and the sea. A comparison and contrast of traditional and contemporary land tenure, use and management practices, including consideration of self sufficiency of food production and subsistence living.

Augustin Kramer, *Ergebnisse der Sudsee-Expedition 1908-1910*

Elizabeth Rechebei and Samuel McPhetres, *History of Palau: Heritage of an Emerging Nation*.

Airai State Planning Commission; Airai Master Plan. Airai, 2010.

Koror Municipal Zoning Law

Culture – Built and Intangible:

Investigation of the bai, as the building and the community, and is intended to discover traditional cultural importance for creating environmentally appropriate buildings (both physically and socially) and to enable investigations of if and how they may apply in the contemporary environment (both physically and socially).

The inclusion of a descriptive narration of the traditional bai building, considering construction tools, materials, and construction methods and techniques is envisaged. The outcome of this research is expected

to reinforce the concept of materiality and sustainability in the local environment as traditionally practiced by people in Palau

**Margo Vitarelli and Faustina Rehuher, Olechotel Belau: Cultural Treasures of Palau**

This booklet was written as an introduction to aspects of Palauan culture and an information package for visitors to Palau for the 1998 Micronesian Games. It provides a valuable insight into what the Cultural Committee Members and the Palau States' Representatives considered valuable information for competitors and visitors from neighboring islands of Micronesia.

**Telmetang, Marciana, and Simeon Adelbai, Bai.**

This booklet provides an overview of the traditional *bai*. It describes traditional construction methods, and those used for the construction of the Museum bai, Bai er a Ngesechel a Cherechar, built September 1990 to March 1991. Illustrations and explanations of stories of the carved pictographs and other symbolic motifs are included at the end of the booklet.

**Contemporary Palau:**

**Isebond Asang, "Searching for a Palauan Identity with an English Accent: Language with an Attitude."**

This paper was presented to the 24<sup>th</sup> Annual University of Hawaii Pacific Islands Studies Conference in October 1999. The theme of the conference was Out of Oceania: Diaspora, Community and Identity. In this paper Isebond tells the story of her discovery her Palauan identity.

**Isebond Asang, "Remaking Footprints: Palauan Migrants in Hawaii."**

**Francis (Fran) Hezel, The New Shape of Old Island Cultures: A Half Century of Change in Micronesia.**

Although this book is not written specifically about Palau, it discusses issues and challenges that many people in Micronesia face while transitioning into a global environment. It provides an excellent overview of dilemmas created by the clash of cultural expectations.

Jan Rensel and Maragret Rodman. Home in the Islands: Housing and Social Change in the Pacific.

Although this book is not written specifically about Palau, it discusses issues and challenges that many people in Micronesia face while transitioning into a global environment.

Republic of Palau, P2005-1: 2005 Census of Population and Housing of the Republic of Palau.

This document is the Questionnaire for the 2005 Census of Population and Housing of the Republic of Palau.

It is included in the Appendix for information purposes.

Office of Planning and Statistics, 2005 Census of Population and Housing of the Republic of Palau: Volume 1 Basic Tables.

This document provides the basis for analysis of contemporary housing in Palau. Although it is eight years old, at the time of writing it was the most current accessible (online) census document.

#### Work in Palau:

Patrick Tellei, "Omelsubel a Ureor: Workforce Development in Palau from Pre-Contact to 1999."

Karen Nero, Fermina Brel Murray, and Michael Burton. "The Meanings of Work in Contemporary Palau:

Policy Implications of Globalization in the Pacific."

Sandra Pierantozzi, "Palauans and Guest Workers: An Opinion Paper."

Dean Alegado, and Gerard Finin. "Exporting People: The Philippines and Contract Labor in Palau."

#### Education in Palau:

Asang, Isebong. "Epistemological Articulations: Blebaol, Klomengelungel ma Tekoi er Belau."

Shuster, Donald. Islands of Change in Palau: Church, School, and Elected Government, 1891 - 1981."

Kupferman, David. "Disassembling School in Micronesia: Genealogy, Subjectivity, Possibility."

Palau Community College. "Palau Community College 2012- 2016 General Catalog."

Palau Community College. 2009 - 2010 PCC Factbook

## Appendix B

University of Hawaii

### Questionnaire on Contemporary Palauan Customs /Cultural Practices

#### Palauan House: Curriculum Revision as a Vessel for Sustaining Palauan Lifeways

Please answer the following questions

1. List some of the main traditional Palauan customs / cultural practices involving a gathering of the community that take place in present-day Palau.  
(Please write the Palauan name and the nearest English translation)
  - House party
  - Omengat: first child birth ceremony
  - Kemeldiil: funeral
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2. Briefly (in 1 - 2 sentences) describe each custom / cultural practice listed above.
  - House party: relatives (possibly friends also) get together to contribute toward the building of someone's house; the party event is to thank them as well as to provide a venue to drop off donations
  - Omengat: first-time mother's family gets together to pamper her with traditional hot bath, leading up to a day where the mother is debuted along with the child, to which the father's family is invited as well as friends, etc
  - Kemeldiil: event which follows (usually) the church service and precedes burial, in which deceased is paid respect and relatives and friends are called upon to contribute to the bereaved family (for hospital bills, etc); the event also provides a venue for this donation and everyone is fed
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3. Has the enactment of the custom / cultural practice changed?  
If yes, briefly (in 1 - 2 sentences) describe in what ways.
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4. Briefly (in 1 - 2 sentences) explain the meaning /significance or importance of these customs / cultural practices today.
  - Palauan culture is a very communal society, and these practices help keep intact and strengthen ties between people, clans, etc.



## Questionnaire on Contemporary Palauan Customs /Cultural Practices

### Palauan House: Curriculum Revision as a Vessel for Sustaining Palauan Lifeways

Please answer the following questions

1. List some of the main traditional Palauan customs / cultural practices involving a gathering of the community that take place in present-day Palau.  
(Please write the Palauan name and the nearest English translation)
  - Ocheraol el bai - Paying for the construction of the community house (bai)
  - Ocheraol - Paying for the clan, lineage or family house (blai),  
omechar el a blai (omechar - buy, blai - house)
  - Kemeldiil - Funeral
  - Cheldechcheduch - Payment for wife after she or the husband passes away
  - Ngasech/omengat - A hot bath ceremony of a girl after the first birth
  - Klechedaol - A goodwill visit of one village to another village
2. Briefly (in 1 - 2 sentences) describe each custom / cultural practice listed above.
  - Ocheraol el bai - After a village build a community house (bai), all the clan representatives gather together at the community house to make payment (female relatives contribute) for the bai with each clan pay certain amount in this order - the high clan pay the highest, then the next, all the way down to the lowest clan which pay the least.
  - Ocheraol - When a male member of the clan, lineage or family build a house the female relatives gather together and contribute money for the payment of the house. The sistes or the closest female relatives contribute more that the others, with the eldest sister paying the largest amount of money and so on.
  - Kemeldiil - When a person dies, the relatives gather together to pay their respect.
  - Cheldechcheduch - After the death of a spouse, relatives of the husband put together some money (US money and Palauan money) and turtle shells (toluk) and present them to the woman (if she is alive) for her, her children and the relatives.) If she is death the money goes to relatives and children. Besides the money, piece(s) of land is given to the male children and taro patch(s) is given to the female children.
  - Ngasech/Omengat - After a young girl gives birth for the first time, she goes through a series of hot baths in about four to ten days. After that there will be "ngasech or omengat." This time a girl goes through another hot ritual in a small tent-like place called

Bliukel and then she is adorned in traditional ornaments and be displayed outside at the frone the house where the female relatives of her husbandaround her putting hot water on her feet. This is called "mesurch a uach" bathing feet with hot water, prehaps symbolizing the days she wnet through series of hot, but this time giving the reltives of the husband the chance to do bathing. in many cases this is the time to officialize the marriage of this couple. This time the boy's relatives give money (US dollars and Palauan money) to relatives of the girl as "bus" and "buuldiil". The girl's relatives gives food in exchange.

- "Klechedaol" - is an event when the affiliated villages make good will trips one to the other village and stay there for several days. it is a time for the hosting village to render accomodations, namely meals (even feast), beddings and entertainments such as dances etc. The guests bring their gifts, entertainments to the feast as well.
3. Has the enactment of the custom / cultural practice changed?  
If yes, briefly (in 1 - 2 sentences) describe in what ways.
- Ocheraol el bai - This custom / cultural practice has not changed. Still practiced today.
  - Ocheraol - Although the custom and concept is still practiced there has been major alteration of the process.
    - (1) Fewer and fewer men have ocheraol.
    - (2) More ans more men choose to buy their houses on their own through back loan, or house party which he invites friends, relatives, acquaintance to contribute money tohim with understanding he himself pays back the people who contribute money to his house-party.
  - Cheldecheduch - This cultural practice stays pretty much the same today. What changes is the time at which it takes place. Traditioanlly, cheldecheduch takes place within 2-3 months after a spouse passes away. Today it can be combinned with the funeral, several days before the funeral, or several months after the funeral.
  - Kemeldiil - This custom /cultural practice stays pretty much the same. The only changes are,
    - (1) with the morgue available, funerals don't take place as soon as a person dies as before,
    - (2) no longer does a person has to stay overnight before burial as before. this days a person gets out of the morgue, brought to his/her home and be there until around 1pm to 2pm and then burial.

- Ngasech/Omengat - This event has been amplified in the past 20 to 30 years.
    - (1) Instead of women chant and dance as they bathe the feet of the new mother, there is a life band and
    - (2) not only do the relatives of the boy dance and bathe the girl's feet, but friends and acquaintance of both the girl and the boy, also go and do the dancing and bathing.
    - (3) Sometimes men join the dance which traditionally only women do it.
  - Klechedaol - Klechedaol rarely practiced today and when it happens, it may not be as big a group as done in the early days. The means of transportation, the food the music and entertainment also have changed somewhat.
4. Briefly (in 1 - 2 sentences) explain the meaning /significance or importance of these customs / cultural practices today.
- Ocheraol el bai is significant because the expense of building a community house is a responsibility of all the clans in the community since traditionally the clans are the government and so it is their duty and responsibility to put together their effort in the form of ocheraol el bai.
  - Ocheraol is significant in that the expense of the house that belongs to a clan, lineage or family is the responsibility of the female members of the clan, lineage or family. The male head of the family who will reside in the house is to make sure he and his wife will accommodate the functions related to the clans, lineage and family. This signifies the fact that, as a communal lifestyle, clan which is the extended family in a community, and as such, every member shares role and responsibilities and no one is left out.
  - Kemeldiil is significant because, as in every culture, death is a closure of one's earthly life and it is a time for people, relatives and neighbors, to gather together to show support, comfort, and pay last respect.
  - Cheldechoduch is important on that throughout the lifetime of this couple, the woman is expected to love and take good care of her husband and render service, care, and affection to his relatives. Consequently, after the death of either one, the relative of the husband presents money, toluk (turtle shell money) land and taro patch to the woman and her relatives as a token of appreciation and payment for

her commitment and faithful services. The relatives of the wife reciprocate the giving of food.

- Ngasech/Omengat is significant in that after the series of hot baths, a new mother is prepared beautifully adorned with proper traditional ornaments - and is to be shown to the relatives of the man as a new mother and the wife of their relative.
- Klechedaol is important in that it is a good will tour of one sister village to another to connect, to show friendship, to celebrate and strengthen relationship and build alliance.

## Questionnaire on Contemporary Palauan Customs /Cultural Practices

### Palauan House: Curriculum Revision as a Vessel for Sustaining Palauan Lifeways

Please answer the following questions

1. List some of the main traditional Palauan customs / cultural practices involving a gathering of the community that take place in present-day Palau.  
(Please write the Palauan name and the nearest English translation)
  - omengat: "steam bath" first child ceremony
  - kemeldiil/cheldechcheduch :funeral/final talking, settlement of estate
  - ocheraol: money gathering usually for a house
  - ureor el beluu: working (cleaning) the village
  - chelechiil: marriage
  - orrenge a buai: public hearing
2. Briefly (in 1 - 2 sentences) describe each custom / cultural practice listed above.
  - honors new mother. wife's family brings food, husband's family pays, mother is decorated so she and the infant are presented to husband's family
  - a couple weeks after death, huge sums spent feeding everyone, burial, payment of debts
  - in lieu of mortgage, sisters of middle age homeowner pay a thousand each, all friends and relatives contribute, sometimes at a house party
  - everyone shows up with a knife to clean the village on a day called by chief
  - small, private meeting of parents of couple, baskets or table of food made by bride's family exchanged for (bus) money paid by husband's family
  - evening meeting at state office with a presentation and people given chance to hear about plans or express opinions
3. Has the enactment of the custom / cultural practice changed?  
If yes, briefly (in 1 - 2 sentences) describe in what ways.
  - formerly big ceremony only if husband's family took responsibility. now single mothers more common. now they have band, stage and party all afternoon
  - burial used to be the next day. now they print t-shirts and spend tens of thousands of dollars. people who make food get hundreds of dollars each.
  - money gathering by day, house party at a bar at night, \$250 fee to Koror state government
  - not changed

- not changed
  - formerly only chief's spokesman would speak in public. now all people speak more freely
4. Briefly (in 1 - 2 sentences) explain the meaning /significance or importance of these customs / cultural practices today.
- omengat: very important to honor the ability to reproduce Palaluan and establish family ties
  - kemedil/funeral: very important for closure and to pay hospital, morgue and other debts and provide for the widdow and children
  - ocheraol: very important to pay for the house. People watch hw much a man's sister donate because she is his character reference
  - ureroel a beluu: important to keep our village healthy and clean. if one is absent they must send food or drinks for the workers. one day when you need heop for aa funeral, omengat or election then people remember if you helped clean on work days.
  - marriage: not very important. mostly this is covered at fie=rst child ceremony.
  - public hearing: often just a formality without much effect. not very important
- 
- all of these customs help us remember who our relatives are to prevent incest. we discuss who is related and how. we also help each other so when we need help we get it. we work together as an island community. the whole country is one small town
  - houses have changed. 100 years ago it was just a box made of native plants in the forest. 30 years ago they added indoor plumbing and the houses were built near the beach of corrugated metal, plywood and imported lumber. now they are mostly concrete, often upland away from the dangerous ocean, with electricity, phone, TV, internet and pre-painted, galvanized steel roof. but they still always build a "summer house" outside with a thatch roof, bamboo benches and no walls. someone in the family has to have a yard big enough for funeral or first child ceremony that are attended by hundreds of people. they rent tents, plastic chairs and portable toilets.

## Questionnaire on Contemporary Palauan Customs /Cultural Practices

### Palauan House: Curriculum Revision as a Vessel for Sustaining Palauan Lifeways

Please answer the following questions

1. List some of the main traditional Palauan customs / cultural practices involving a gathering of the community that take place in present-day Palau.  
(Please write the Palauan name and the nearest English translation)
  - Chomesurch - Ngasech (Ceremony for the first born child)
  - Kemeldiil (Funeral of a deceased)
  - Debes ra Klobak mes Mechas (Ceremony of installing a new chief and a cheiftain - counter part of a chief/female title)
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2. Briefly (in 1 - 2 sentences) describe each custom / cultural practice listed above.
  - It is an important traditional Palauan custom and customary practice for families to ensure that a daughter who will have her first child will go through a "hot bath" process. This cultural practice begins about 6 weeks after a first born child and new mother has seen her doctor. It is a medicinal healing process to assist and strengthened physical health of a mother. At the finale of the process, the new mother will show her beauty and a wealth of her husband or father of her first born. The duration of the hot bath process may take 4-15 days depending on the ranking of the female in her clan.
  - Kemeldiil (funeral practices) is the other important part of Palauan customs where families, relatives, clans and friends will come together to mourn and assist the immediate family of a deceased pay for his or her debt. In case of a male (married) there are ritual obligations and responsibility from the male side of the family to fulfill to a wife and his children. This involves gifts of "Belauan" money, U.S dollars and piece of land for the children.
  - "Debes" ra Klobak mea Mechas. This traditional custom is done for installing title(s) of male (chief) and female (cheiftain-counter part of the male chief) when it becomes vacant. Palauan society is one of matriarchal system whereby the female members of the clan will appoint the next person in-line to the throne. The ceremonial activities is planned, organized and implemented by the maternal females of a given clan. It can be elaborated depending on the level of a position and/or title to be occupied. For example, for the highest ranking chief, the ladies of the clan will dialogue and come up with a name of a

person in line to the throne and decided when the ceremony will be including the value of Belauan money and US dollars to collect for the Klobak.

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- 3. Has the enactment of the custom / cultural practice changed?  
If yes, briefly (in 1 - 2 sentences) describe in what ways.
  - The fundamental enactment of the above customs/cultural practices have remained the same. The above Palauan traditions, beliefs, values and cultural practices have stayed the same.
  - I believe what has changed is an increase and elaboration of the amount in US dollars and Belauan money collected and contributed from the members of the clan. The competition of type of food , how much food is prepared for an occasion and the money collected is continuing to change
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- 4. Briefly (in 1 - 2 sentences) explain the meaning /significance or importance of these customs / cultural practices today.
  - These customs/cultural practices identify and describe who the Palauan people are.
  - Being involved in these customs/cultural practices bond/link the members of the clan together as well as providing stage for various groups, social interactions and networking of clan members with others.



## Questionnaire on Contemporary Palauan Customs /Cultural Practices

### Palauan House: Curriculum Revision as a Vessel for Sustaining Palauan Lifeways

Please answer the following questions

1. List some of the main traditional Palauan customs / cultural practices involving a gathering of the community that take place in present-day Palau.  
(Please write the Palauan name and the nearest English translation)
  - Omengedes el btelul a chang (construction/repair of stone piers)
  - Omengiut el taoch (clearing of mangroves channel)
  - Omeruul el Bai (construction/repair of Traditional Chief's meeting house)
  - Omelai el omoachel (clearing of rivers as source of water and water for taro patch)
  - Omenges el kall (contributing of food for community events, visitors, celebration of accomplishment)
2. Briefly (in 1 - 2 sentences) describe each custom / cultural practice listed above.
  - village citizens gather to construct or repair pier for easier access of the fishermen, travelers
  - village citizens gather to clear channels especially village covered by mangroves for easier access of boats/canoes to the inner village away from stone piers
  - villagers gather to construct bai since bai is the community center for all activities conducted in the village as well as meeting house for traditional chiefs and traditional organizations
  - villagers gather to clear rivers which is the source of drinking water, household necessities, and regulated the amount of water flowing into taro patch for taro as main source of starch
  - villagers are contributing foods upon chiefs' request for community events, works, including accommodating the quest visiting from other village which they have special ties.
3. Has the enactment of the custom / cultural practice changed?  
If yes, briefly (in 1 - 2 sentences) describe in what ways.
  - Yes, foreign currencies, foods, goods has changed the traditional conduct of customs and culture.
  - Yes, education system is not relying on parents, community and sibling, but fully govern by modern government.
  - Yes, people's mind are geared towards foreign way of life rather than traditional
  - Yes, foreign foods are widely used in customs than traditional foods since foreign food are easy to prepare and convenient to obtain than traditional food which require hard labor and longer time

- Yes, many component of many customs, such as home financing, funerals have changed due to individuals who can afford such customs without asking help from extended family and family structure that has become more nucleus instead of enxteneded.
4. Briefly (in 1 - 2 sentences) explain the meaning /significance or importance of these customs / cultural practices today.
- Culture distinguish the social status of the citizens
  - Showcasing of clans wealth and prestiges
  - Showing social status of each clan, (royal, noble, commoners)
  - Identity of Palauans
  - Maintaining peace and order in the village
  - Conservation of resources
  - Ensuring new generations of abundance of resources
  - Safeguarding of resources for the next generation

## Questionnaire on Contemporary Palauan Customs /Cultural Practices

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Please answer the following questions

1. List some of the main traditional Palauan customs / cultural practices involving a gathering of the community that take place in present-day Palau.  
(Please write the Palauan name and the nearest English translation)
  - Funerals and the post-funeral family activities that accompany it
  - First birth ceremony
  - Weddings, can be traditional, modern or a combination of the two
  - First year birthday,
  - House parties which have evolved from family gatherings (an ocheraol) where money was collected to pay for a man's house or boat (there may be other items as well but these were the main two items I know of)
2. Briefly (in 1 - 2 sentences) describe each custom / cultural practice listed above.
  - Relatives from both the mother and father of the deceased gather for the burial. Money is collected to pay funeral expenses, the amounts vary according to the closeness of the donor to the deceased with the maternal line normally being the one more responsible for organizing it. Another part of the funeral is the family settlement between husband and wife when one dies and the "estate" is divided by the families and land &/or money may be given by the man's family to the wife's family. The exact amount is negotiated between the clans based on the nature of their relationship.
  - The ceremony is preceded by hot baths lasting a range of days depending on the rank of the woman's clan. At the ceremony, the father's family is expected to attend and pay for the expenses incurred by the mother's clan for the hot bath treatments and the food served.
  - Relatives gather for the ceremony and party. In a traditional wedding, food is given to the groom's family and money (traditional & now dollars) are given to the bride's family.
  - This is more a new celebration and is not that traditional in Palau. The family invites people and prepares food. Usually the guests bring monetary gifts which help pay for the party.
  - This is traditional and occurs when the house/boat is completed. The man's sisters/maternal line gather and collect money to pay for the house/boat. In modern times this often takes the form of house parties held at a bar where an extensive list of relatives, friends & work colleagues are invited and donate varying amounts based on reciprocity and ability to donate.

3. Has the enactment of the custom / cultural practice changed?  
If yes, briefly (in 1 - 2 sentences) describe in what ways.
- For various reasons, the burial and the money collected for settling debts are now done on the same day. The most significant change has been delaying funerals for long periods of time to fit the needs of the living.
  - I think the ceremony has not changed much but traditionally it was done immediately after giving birth (for health reasons) but now is usually done 1-3 months after the baby was born.
  - Often a church ceremony is combined with some of the traditional obligations but details can now vary to fit the needs of the families.
  - The first birth ceremony is not that traditional in Palau.
  - Raising money to pay for a boat is very rare now days. House parties are now held by most people and constitute the first action in paying for a house. The traditional ocheraol is not as common and would just be a family gathering to pay for the balance of a house.
4. Briefly (in 1 - 2 sentences) explain the meaning /significance or importance of these customs / cultural practices today.
- They continue to provide a means for clans to gather so the youth and meet and know who all their relatives are. The financial obligations are becoming quite onerous as wages and dollars have become the normal means of paying for most of these customs.

## Questionnaire on Contemporary Palauan Customs /Cultural Practices

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Please answer the following questions

1. List some of the main traditional Palauan customs / cultural practices involving a gathering of the community that take place in present-day Palau.  
(Please write the Palauan name and the nearest English translation)
  - Kemeldiil - Funeral
  - Omengat - First birth hot bath
  - Ocheraol - Gathering where people pitch in money to help buy a newly built first home
  - Cheldecheduch - Gathering to give some money and other belongings to the family of a wife, sometimes the wife (if she is still alive at the event of the death of husband), and the children to ensure that they are still part of their late father's family
  - Omelobech - Gathering dedicated to a new chief when he takes his new position as chief
2. Briefly (in 1 - 2 sentences) describe each custom / cultural practice listed above.
  - Kemeldiil - Funeral
  - Omengat - Woman after giving birth to her first child undergoes a hot bath with local herbal medicines that are supposed to help restore and heal the woman's body. At such event, if they so choose, can also be the traditional marriage ceremony where there are food and money exchanges between the bride and groom and the woman is presented to the family of the husband and they all celebrate.
  - Ocheraol - Gathering where people pitch in money to help buy a newly built first home. The majority of the burden is held by the sisters, female cousins and aunts of the male head of household while the female partner's family are in charge of providing the food for the gathering
  - Cheldecheduch - Gathering to give some money and belongings (estate, assets of deceased) to the family of the wife, sometimes the wife (if she is still alive at the event of the death of husband), and the children to ensure that they are still a part of the father's family despite his loss.
  - Omelobech - Gathering dedicated to welcome a newly appointed chief .
3. Has the enactment of the custom / cultural practice changed?  
If yes, briefly (in 1 - 2 sentences) describe in what ways.
  - Yes, the exchange of Palauan money is only significant because of the tradition/culture it represents but not so much anything else because it has no monetary volume

- People are becoming more concerned about what will be said by others and tend to be indebted at banks and small loan businesses in order to meet what they think they are expected to spend at any particular cultural event.
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4. Briefly (in 1 - 2 sentences) explain the meaning /significance or importance of these customs / cultural practices today.
- I think these practices are a big part of our identity as Palauans as some if not all of them are unique to Palau. In addition, I believe it depicts the values of our society, the value of collectivism in the society and our practice of reciprocity and more or less a traditional insurance. The more people you help, the more they are likely to help you when you face your own obligations.

## Questionnaire on Contemporary Palauan Customs /Cultural Practices

### Palauan House: Curriculum Revision as a Vessel for Sustaining Palauan Lifeways

Please answer the following questions

1. List some of the main traditional Palauan customs / cultural practices involving a gathering of the community that take place in present-day Palau.  
(Please write the Palauan name and the nearest English translation)
  - 1<sup>st</sup> birth ceremony
  - house building ceremony
  - funeral
  - appointing of village chief
  -
2. Briefly (in 1 - 2 sentences) describe each custom / cultural practice listed above.
  - mother is pampered with good traditional food and bathed in coconut oil, herbs and almost scalding water for 10 days. Then feast and dancing on the last day to show off the 'new' woman
  - relatives come together to raise money to pay for someone's new house. Sisters of the head of the new house are expected to donate the most
  - burial of the body, support to the surviving spouse, children etc. Usually there is no will so the heads of the family discuss and decide the distribution of the deceased assets and resolution of any liabilities.
  - not familiar with this one
  -
3. Has the enactment of the custom / cultural practice changed?  
If yes, briefly (in 1 - 2 sentences) describe in what ways.
  - of all the customs, this has changed the least except for the addition of technology in the form of electrical band for entertainment
  - changed in that money was NOT originally needed to make a house - only labor and natural materials. Labor and materials (bamboo, palm leaves, rope) were originally what was donated
  - originally body buried within 24hrs, then close aunties stayed at the house of the deceased for 1 month. Other relatives were expected to provide food to feed them during this time. End of one month, all family comes to decide distribution of assets/liab. Now with morgue, body is stored for 2-3 weeks until it is 'most convenient' to have the funeral
  -

- 
- 4. Briefly (in 1 - 2 sentences) explain the meaning /significance or importance of these customs / cultural practices today.
  - 1st birth - celebration of new baby and celebration of mother surviving the birth procedure
  - 'many hands make the difficult work light'
  - remembrance of the deceased life/accomplishments/contribution to the village, support to the survivors to get them past the depression



## Questionnaire on Contemporary Palauan Customs /Cultural Practices

### Palauan House: Curriculum Revision as a Vessel for Sustaining Palauan Lifeways

Please answer the following questions

1. List some of the main traditional Palauan customs / cultural practices involving a gathering of the community that take place in present-day Palau.

(Please write the Palauan name and the nearest English translation)

- Funerals (Kemeldiil)
- First birth ceremonies (Omengat or Ngasech)
- Passing/getting titles
- Marriage Ceremony
- Distribution of properties after death

2. Briefly (in 1 - 2 sentences) describe each custom / cultural practice listed above.

- When a person dies a funeral is held but in Palau many clans come together to mourn and collect money to pay for the debts of the person. Wives of male relatives provide the food and maternal relatives give money which will be used to pay the wives.

Three days after the funeral we have a sis, sis is ti plant and in the olden days this is when the sis told what the cause of death was by movements. Nowadays this is when we finally bid farewell to the death by fixing food and sending the spirit to the land of spirit so we spread the food for the spirits of our ancestors and after they feast we then distribute the food to family members

A kind of new practice is 30 days after funeral we have a 30 day anniversary where we make food, eat and end the funeral activities.

- When a woman has her first child, she will have the hot bath with herbs and at the end of the designated days (10 down to 4 depending on the clan rank) an omengat is held where it is the end of the whole hot bath and her family prepare food and the father/husband of new mother come to welcome the baby and bring money.
- When a title holder dies, especially a maan, a ceremony is held where the title is passed to the next holder. Food is prepared usually by the wife of the new (rubak; chief) and the female of the clan present the new title holder to the rest of chiefs in the community and they accept him into their group.
- Ngader: When people get married food and money is exchanged and the marriage is then recognized by the two clans/families. The woman's family prepare food and send to the groom's family. Ngader means you send the bride to the husband's family.

- When a person dies we have an Eldecheduch where properties are divided or given to wives and offspring.
- 
- 3. Has the enactment of the custom / cultural practice changed?  
If yes, briefly (in 1 - 2 sentences) describe in what ways.
- No, the concept is still intact however the amount of food and money exchanged has increased. Also because of better communications (radio and telephone) relatives from all over Palau attend particularly funerals.
- 
- 
- 
- 
- 4. Briefly (in 1 - 2 sentences) explain the meaning /significance or importance of these customs / cultural practices today.
- It is a show of care and reciprocity.

## Questionnaire on Contemporary Palauan Customs /Cultural Practices

### Palauan House: Curriculum Revision as a Vessel for Sustaining Palauan Lifeways

Please answer the following questions

1. List some of the main traditional Palauan customs / cultural practices involving a gathering of the community that take place in present-day Palau.  
(Please write the Palauan name and the nearest English translation)
  - Kemeldiil - Funeral
  - Omengat/Ngasch - First born coming out ceremony
  - Cheldecheduuch - Money for the wife and children of the deceased.
  - Ocheraol - Money to help a relative's house being built or has been built.
  -
2. Briefly (in 1 - 2 sentences) describe each custom / cultural practice listed above.
  - when there is a funeral, we give money to help pay for the expenses of the funeral. There is no expected amount however the closer you are to the deceased the more money you give to help for the expenses of the funeral.
  - for first born ceremonies, the family of the woman who had the first born prepare food for the family of the man. the family of the man in turn brings money. The money they bring is given to the uncle (usually the woman's mother's brother) in charge of providing most of the food for the feast.
  - After the funeral (same day, a month or a year depending on the family of the deceased) the husband's family would collect money from their relatives to give to the wife as her chelbechilel (marriage compensation) the amount given will be based on the amount of work such as making food for their family, helping at their funerals and making food for the sister, mother or cousins customs. the children (only for the children of the current wife if there are children from previous marriage, they will not be given any money) will also receive money. This is similar to the western's insurance however it is based on the work of the wife has done for her husband's family.
  - 
  -
3. Has the enactment of the custom / cultural practice changed?  
If yes, briefly (in 1 - 2 sentences) describe in what ways.
  - Funerals use to be for two days but has been changed to having it only for a day.
  - None

- None
- None
- 

4. Briefly (in 1 - 2 sentences) explain the meaning /significance or importance of these customs / cultural practices today.

- Palauans still have extended families. In addition, all not just have blood relatives but clan relatives. Similar to insurance in the Western countries, the work you put into your extended family and your clan family, whether helping by giving food but mostly giving money to customs such as funerals and first born ceremony.

## Questionnaire on Contemporary Palauan Customs /Cultural Practices

### Palauan House: Curriculum Revision as a Vessel for Sustaining Palauan Lifeways

Please answer the following questions

1. List some of the main traditional Palauan customs / cultural practices involving a gathering of the community that take place in present-day Palau.  
(Please write the Palauan name and the nearest English translation)
  - Ocheraol
  - Cheldecheduch  
Omengades  
Sis  
Kemeldiil
  - Mur  
Mul Beluu
  - Ureor Beluu  
Omelai lomeuachel  
Omengades el Chades
  - Debes  
Kerritakl
  - Bus
  - Ngasech
  - Bekatel Udoud
2. Briefly (in 1 - 2 sentences) describe each custom / cultural practice listed above.
  - Ocheraol - House Buying for individual, family and clan houses
  - Cheldecheduch - Death Settlements after one partner in a marriage passes on, in any event the wife's side prepares food and the husband's side provide money [for the wife and children]  
Omengades - gathering to prepare and fix the tomb/or placing a tombstone on the grave of the deceased  
Sis - gathering of all family members to determine the cause of death and also to say goodbye to mourners who came to console grieving family members  
Kemeldiil - the actual wake and funeral

- Mur - feast to honor [parents, chiefs] different people have different way and level of feasting
  - Mul Beluu - a community feast where the hierarchy of chiefs provide for the members
  - Ureor Beluu - community Public Work projects [to clear channels, taro patches etc.]
  - Omelai lomeuachel - gathering of community members to clear waterways, mangrove channel
  - Omengades el Chades - a gathering of all community members to restore public piers and docks [this has been repeated in and around Palau since Super Typhoon Bopha in 2012 and Super Typhoon Haiyan in 2013]
  - Debes - gathering of family members of a titled person who died and when certain number of days passes and the clan begin the selection process of the one who will ascend to the title
  - Kerritakl - gathering of the chiefly families [1 - 4] when a person holds an acceptance feast in order to sworn to the title
  - Bus - gathering of the husband's side of the family when payment is made to the wife's side who provides food to be distributed by the husband's side to consummate the marriage
  - Ngasech - public ceremony and gathering of couple's families after a hot bath for a new mother after her first born. [days vary depending on the wife's clan and sometimes the husband's clan]
  - Bekatel Udoud - when family gets together to gather money to help someone pay public debt or to spend for a member mutual obligation
3. Has the enactment of the custom / cultural practice changed?  
If yes, briefly (in 1 - 2 sentences) describe in what ways.
- the basic tenets of the "omeluchel system" which is the basis for Palau's exchange has remained intact, except the items used, such as money, food, Public address system, drinks, venues. These are of course in addition to Palauan items, money, food etc
4. Briefly (in 1 - 2 sentences) explain the meaning /significance or importance of these customs / cultural practices today.
- Although Palau is a new democracy, it cannot exist without the basic customary laws and practices. Items and mediums of exchanges may have changed, but the basic tenet of Palauan Custom "omeluchel" mutual obligation has remained the same.
- I am not sure what you were able to observe when you were in Palau, please do let me know if you need additional information

# ARCHITECTURAL TECHNOLOGY



## PROGRAM COURSES

### AD120 Introduction to Architectural Design & Drafting

This course introduces the student to manual design/drafting using a tee square and/or drafting machine. The topics covered in this course include freehand sketching as a problem solving and communication tool, introduction to the design process, and elementary design principles. At the completion of this course the student will be able to produce a basic set of drawings for a simple house of their own design. Pre: None (3 credit lec)

### AD121 History of Architecture

This course introduces the student to the global history of Architecture both vernacular and monumental including discussion about Palau. Pre: None (3 credit lec)

### AD210 Computer Aided Drafting

This course introduces the student to computer aided design/drafting (CAD) using AutoCAD. At the completion of this course the student will have the AutoCAD skills necessary to complete a set of drawings for a simple house of their own design. Pre: CS 100, & BP115/AD120 (2 credit lec, 1 credit lab)

### AD211 Healthy House Design

This course covers the considerations that must be addressed when designing a house, including social, environmental and ecological factors. The student is guided through the necessary steps from inception, analysis, conceptualization, and design development to produce a final set of drawings for a house. Pre: AD120 & CT113 (3 credit lec)

### AD212 House Working Drawings

This course covers the considerations that must be addressed when producing working drawings for a house, with an emphasis on structural integrity and construction detailing including weather-tightness. The student will complete a set of working drawings for a house of their own design. Pre: AD120 & CT113 (1 credit lec, 2 credit lab)

### AD213 Project Management

This course concentrates on the procedures and methods that are used by the project manager during the construction and post construction phases of a project. Construction today involves more than physical erection of projects. It is essential for a project manager to manage, control, and document project activities. Pre: AD120, MS101 & BA110 (2 credit lec, 1 credit lab)

### AD220 Architectural Presentation

This course focuses on architectural presentation documentation, including three dimensional illustrations including perspective drawing, color rendering, models, color boards and presentation boards. The student will use a professional image used to encourage client confidence. Pre: CS100 & AD120 (2 credit lec, 1 credit lab)

### CT113 Introduction to Construction

This course covers common construction materials, product, and systems as well as construction efficiency and safety in the delivery, handling, and installation of building materials. Pre: None (1 credit lec, 2 credit lab)

### MS101 Basic Masonry/Concrete Work

This course covers measuring, basic plan reading, estimating, masonry tools, masonry, anchors and laying units and related masonry construction. Pre: None (1 credit lec, 2 credit lab)

### ET110 Basic Electrical Wiring

This course is designed to provide non-electrical major students with technical knowledge and skills relevant in construction sites. It deals with fundamental concepts of electricity. It covers basic skills required in the workplace. It covers basic safety practices in dealing with electrical works, proper use of basic electrical hand tools, electrical wiring, and troubleshooting. It covers wiring of simple electrical circuits and basic wiring for single-family dwelling unit. Pre: None (1 credit lec, 2 credit lab)

### PL214 Residential Plumbing

This course covers residential plumbing orientation, plumbing tools and materials, water systems, water valves, fixtures and fixtures. Pre: BP115 (2 credit lec, 1 credit lab)

### CS100 Computer Literacy

This course covers basic information processing and uses of computer including basic application software and the Internet. Topics include basic word processing, spreadsheets, database, Operating System and computer software including word processing, spreadsheet, and Internet applications, including email. Pre: None (3 credit lec)

### BA110 Introduction to Business

This course is designed to help students understand small business management from planning to creation and operation. Students will be required to prepare a complete business plan that they will use to start a business. The course is ideal for those persons considering starting a business as well as those that are already in business.

### BA214 Business Law

This is an introductory course in civil law. Emphasis is placed upon the study of contracts, agency, torts, and property. It covers corporations, security transactions, business torts, current ownership of land and goods and real property. Pre: TCEFL (3 credit lec)

### BU120 Business Management

This course is an overview of management theory that introduces students to various management styles, models, and concepts and helps them to understand the roles and duties of managers in various organizations. It covers management in streamlined organizations, teamwork, and employee empowerment are emphasized, as well as more traditional hierarchical management methods and organizations. Pre: BA110 & EN95 (3 credit lec)

## GENERAL EDUCATION COURSES

### SS100 Introduction to College

Pre: None (1 credit lec)

### CO110 Introduction to Communication

Pre: EN95 (3 credit lec)

### HP180 Personal & Social Health

Pre: EN95 (3 credit lec)

### MA105 Intermediate Algebra

Pre: MA95 (3 credit lec)

### SC239 Natural History of Palau

Pre: SC90 (3 credit lec, 1 credit lab)

### SS209 Changes in Micronesia

Pre: TCEFL (3 credit lec)

For further information please call 488-2471 or visit our web site [www.palau.edu](http://www.palau.edu)

## Appendix D

### COURSE OUTLINE: ARCHITECTURAL PRESENTATION

#### ARCHITECTURAL PRESENTATION

Course Title

AD 220

Dept. & Course No.

#### I. COURSE DESCRIPTION:

This course focuses on architectural presentation documentation, three dimensional illustrations including perspective drawing and color rendering, models, color boards and other tools to create a professional image used to encourage client confidence.

#### II. SEMESTER CREDITS:

3

#### III. CONTACT HOURS PER WEEK:

|          |          |          |
|----------|----------|----------|
| <u>2</u> | <u>3</u> | <u>5</u> |
| Lecture  | Lab      | Total    |

#### IV. PREREQUISITE:

AD 120      CS100

#### V. STUDENT LEARNING OUTCOMES:

Upon completion of this course, the student will be able to, with 65% accuracy to:

1. Draw mechanical perspectives of buildings (one point and two point)
2. Render perspectives in water color
3. Render perspectives in mixed media
4. Generate computer three dimensional drawings - isometrics and perspectives

#### VI. COURSE CONTENT:

- A. Mechanical perspectives
  1. Station point
  2. Eye level
  3. Vanishing points
  4. Shadows
- B. Perspectives in water color
  1. Color wheel
  2. Color wash
  3. Blended wash
- C. Perspectives in mixed media
  1. Color pencils
  2. Pastels
  3. Markers
- D. Computer three dimensional drawings
  1. AutoCAD LT - coordinates  
extrude & subtract
  2. AutoCAD 2007 – 3D modeling



- |                                     |   |
|-------------------------------------|---|
| 5. Render the computer perspectives | E. Computer perspectives <ol style="list-style-type: none"> <li>1. AutoCAD drawings</li> <li>2. Pictures using Photoshop</li> </ol> |
| 6. Create brochures                 | F. Brochures <ol style="list-style-type: none"> <li>1. Manual design (cut &amp; paste)</li> <li>2. Microsoft Publisher</li> </ol>   |
| 7. Construct scale models           | G. Scale models <ol style="list-style-type: none"> <li>1. Representation</li> <li>2. Materials</li> </ol>                           |
| 8. Construct color boards           | H. Color boards <ol style="list-style-type: none"> <li>1. Materials</li> <li>2. Color</li> <li>3. Texture</li> </ol>                |

## VII. EQUIPMENT AND MATERIALS

### Classroom Tools and Equipment

Computers with Photoshop, and Microsoft Publisher and PowerPoint (Rm 67)  
 Computers with AutoCAD 2008/AutoCAD LT 2008 (OMIP Lab)  
 Printer with tabloid printing capability (HP2600N Color LaserJet Printer from ComputersPlus)  
 Print Cartridges – black, colors  
 Drawing boards  
 Tracing paper – roll (36" x 20 yds)  
 Rubber cement adhesive  
 Double stick tape  
 Watercolor paper pad  
 Sketch paper pad  
 Poster board  
 Foam board  
 Routine classroom materials

### Student's Tools and Equipment (purchased by students)

Architect's scale rule  
 Tee square  
 30° set square  
 45° set square  
 Adjustable set square  
 Compass drawing set  
 Brush  
 Lead pointer  
 Lead holder/pencil  
 Leads – HB, F, & H  
 Eraser shield  
 Eraser  
 Drafting tape  
 Watercolor set  
 Art paint brushes

Utility knife  
Color pencil set

#### VIII. TEXT AND REFERENCE

**Required Text:**

Instructor's made handouts.

**Supplementary References:**

Birker, Stefan *Drawing and Painting with Colored Pencils*  
Dudley, Leavitt *Architectural Illustration*

#### IX. METHODS OF INSTRUCTION

1. Lecture
2. Demonstration/Explanation
3. Discussion
4. Student projects/Reinforcement activities

#### X. METHOD OF EVALUATION

Lecture presentation is tested by written tests.

Lab evaluation is based on skill development and knowledge acquisition.

Four criteria used in evaluating projects and operation performance are:

1. Precision
2. Techniques
3. Appearance
4. Completion

The components used in the computation of the final grades are:

- |                                 |     |
|---------------------------------|-----|
| 1. Classwork/participation..... | 20% |
| 2. Homework/assignments.....    | 40% |
| 3. Quizzes.....                 | 20% |
| 4. Mid term and final test..... | 20% |

The transmutation of percentages to letter grades are:

|                |   |
|----------------|---|
| 90 – 100%..... | A |
| 80 – 89%.....  | B |
| 70 – 79%.....  | C |
| 65 – 69%.....  | D |
| 0 – 64%.....   | F |

# TASK LIST: ARCHITECTURAL PRESENTATION

| <u>ARCHITECTURAL PRESENTATION</u>  | Credits | <u>2</u><br>Lecture | <u>1</u><br>Lab | <u>48</u><br>Total Lab Hrs |
|--|---------|---------------------|-----------------|----------------------------|
| TASK   |         |                     |                 | TIME                       |
| SLO #1<br>Draw a one point perspective of a room.  |         |                     |                 | 2                          |
| SLO #2<br>Draw a mechanical two point perspective of a simple house, including shadows, using drawing board. |         |                     |                 | 14                         |
| SLO #3<br>Render perspective of the house in water color.  |         |                     |                 | 4                          |
| SLO #4<br>Render perspective of the house in mixed media.  |         |                     |                 | 4                          |
| SLO #5<br>Generate a perspective of a simple house using computer  |         |                     |                 | 8                          |
| SLO #6<br>Render the computer perspective.   |         |                     |                 | 4                          |
| SLO #7<br>Create a brochure using perspectives.  |         |                     |                 | 4                          |
| SLO #8<br>Construct a scaled model   |         |                     |                 | 6                          |
| SLO #9<br>Construct a color board.   |         |                     |                 | 2                          |
| Total Hours  |         |                     |                 | 48                         |

## NEW COURSE PROPOSAL: ARCHITECTURAL PRESENTATION

### INTRODUCTION

#### 1. Rationale

Construction drawings are documents used to communicate information and relate directions in construction projects. However, many people outside the construction industry have difficulty understand such documents, and visualizing their message, so it is useful to have the ability to illustrate the intent of those documents graphically in a manner that the layman can envisage. This course introduces the student to various strategies of assisting the “client” to envisage the concept of the structure described by the construction drawings.

#### 2. Relationship to other Courses and/or Programs

This course expands on skills learnt in AD120. It is part of the Architectural Drafting program.

#### 3. Course Description

This course focuses on architectural presentation, three dimensional illustrations including perspective drawing and color rendering, models, color boards and other tools to create a professional image used to encourage client confidence.

#### 4. Target Group/Class Size

There are many careers in the construction industry that require detailed knowledge of construction. This course is created to cater for people interested in working in the interactive sphere in the industry.

It is anticipated that the proposed classroom can accommodate 10 students.

### BUDGET

#### 1. Budget/Financial Impact: Estimate for Tools and Equipment

| Tools and Equipment                                      | Number off | Price    | Total Cost |
|--|------------|----------|------------|
| AutoCAD LT 2008, Lab (10 users from Hearlihy, Pittsburg) | 7          | 2,150.00 | 2,150.00   |
| HP2600N Color LaserJet Printer from ComputersPlus        | 1          | 1,054.00 | 1,054.00   |
|  |            |          | \$3204.00  |

## 2. Budget/Financial Impact: Estimate for Materials

| Materials                           | Number off | Price | Total Cost |
|-------------------------------------|------------|-------|------------|
| Print Cartridges – black, colors    | ?          |       |            |
| Tracing paper – roll (36" x 20 yds) | 1          | 69.95 | 69.95      |
| Rubber cement adhesive              | 1          | 5.25  | 5.25       |
| Double stick tape                   | 1          | 2.25  | 2.25       |
| Watercolor paper pad                | 3          | 5.49  | 16.47      |
| Sketch paper pad                    | 3          | 7.95  | 23.85      |
| Poster board                        | 10         | 0.50  | 5.00       |
| Foam board                          | 10         | 4.50  | 45.00      |
|                                     |            |       | \$167.77   |

## 3. Library Resources

None

## 4. Others

None

## COURSE OUTLINE

See attached

## SUPPORTING DOCUMENTS

See attached

## COURSE OUTLINE: CONSTRUCTION PROJECT MANAGEMENT

### CONSTRUCTION PROJECT MANAGEMENT

Course Title

AD 213

Dept. & Course No.

#### I. COURSE DESCRIPTION:

This course concentrates on all the aspects that a successful project manager needs to understand; the people involved in the design and construction process, the principal phases of a project, and the tools required to effectively manage the people and the project.

#### II. SEMSTER CREDITS:

3

#### III. CONTACT HOURS PER WEEK:

|          |          |          |
|----------|----------|----------|
| <u>2</u> | <u>3</u> | <u>5</u> |
| Lecture  | Lab      | Total    |

#### IV. PREREQUISITE:

AD120, CT113, MS101, & BA110.

#### V. STUDENT LEARNING OUTCOMES:

Upon completion of this course, the student will be able to, with 65% accuracy:

1. Describe different sectors of the construction industry
2. Describe the roles and responsibilities of the key project participants
3. Describe three basic models for organizing project teams
4. Describe the major types of contracts, with their advantages and disadvantages

#### VI. COURSE CONTENT:

- A. Different sectors
  1. Residential
  2. Commercial
  3. Infrastructure
  4. Industrial
  5. Research and Development
- B. Key project participants
  1. Owners
  2. Design professionals
  3. Construction professionals
- C. Models for organizing project teams
  1. Levels of specialization authority
  2. Decision making
  3. Organizational structure
  4. Quality management
  5. Legal forms of organizations
    - Sole proprietorship
    - Partnership
    - Corporation
- D. Major types of contracts
  1. Assessing and managing project risks
  2. Delivery methods
    - Design/bid/build
    - Design/build
    - Project management

3. Choosing a contract type
  - Single fixed price
  - Unit price contract
  - Cost plus a fee
5. Describe the principal tasks in the life cycle of a project
6. Explain the bidding process
7. Explain the activities necessary to properly organize and prepare a project for construction
8. Practice selected methods of effective estimating
- E. Principal tasks in the project life cycle
  1. Initiation of the project
  2. Feasibility analysis
  3. Financing
  4. Design of the project
  5. Procurement
  6. Construction
  7. Turnover and startup
  8. Operation of the facility
- F. The bidding process
  1. Construction information
  2. Bidding information
    - Invitation to bid
    - Instruction to bidders
    - Bid forms
    - Alternates
    - Addenda
  3. Contractual information
  4. Technical information
  5. Analysis of bids
  6. Award of the contract
- G. Organize and prepare a project for construction
  1. Subcontracts
  2. Staffing
  3. Job start
  4. Construction productivity
  5. Procurement
  6. Job site
- H. Methods of effective estimating
  1. Common estimating traits
  2. Function of the estimate
  3. Estimate considerations
    - Project size
    - Project quality
    - Location
    - Time
  4. Types of estimates
    - Estimating during design
    - Estimating during construction

- 9. Practice, compare, and evaluate selected methods of construction scheduling
- 10. Practice selected methods of effective budgeting, and cost control
- 11. Describe and evaluate job site administration
- I. Methods of construction scheduling
  - 1. Scheduling throughout the project
    - Preconstruction planning
    - Construction scheduling
    - Postconstruction scheduling
  - 2. The planning & scheduling process
  - 3. Scheduling methods
  - 4. Creating the schedule
    - Activity definition
    - Network diagram
    - Activity duration
    - Calculations
    - Refining and monitoring
- J. Effective budgeting, and cost control
  - 1. Project control objectives
  - 2. Basic control theory
  - 3. Preparing a project for construction
  - 4. Direct costs
  - 5. Indirect costs
  - 6. Project overheads
  - 7. Cost and schedule performance models
  - 8. Cost control
- K. Job site administration
  - 1. Communication
    - Notice to proceed
    - Meeting minutes
    - Requests for information
    - Daily reports
    - Diaries
    - Progress photographs
    - Monthly reports
    - Electronic communication
  - 2. Application for payment
  - 3. Changes to the work
  - 4. Claims and disputes



12. Evaluate construction safety and health

- L. Construction safety and health
1. The cost of accidents
  2. The cause of accidents
    - Unsafe conditions
    - Unsafe acts
  3. Types of accidents
  4. Accident prevention
    - Safety programs
    - Employee orientation & training
    - Safety meetings
    - Preventative devices
    - Owner and architect roles
    - Identification of hazards
    - Enforcement
  5. If an accident occurs

## VII. EQUIPMENT AND MATERIALS

Classroom Tools and Equipment  
Computer and projector  
Transportation  
Digital camera  
Classroom materials

## VIII. TEXT AND REFERENCE

Required Text:

Gould, Fred & Joyce, Nancy, Construction Project Management,  
Upper Saddle River, NJ: Pearson Prentice Hall 2009.

## IX. METHODS OF INSTRUCTION

Lecture  
Demonstration/Explanation  
Discussion  
Field trips  
Student projects/Reinforcement activities

## X. METHOD OF EVALUATION

Lecture presentation is tested on written test. Lab evaluation is based on skill development and knowledge acquisition.

Four criteria is used in evaluating projects and operation performance are:

1. Accuracy
2. Techniques
3. Appearance
4. Completion

The components used in the computation of the final grade are:

|    |                           |     |      |
|----|---------------------------|-----|------|
| 1. | Participation             | 25% |      |
| 2. | Quizzes/Homework          | 10% |      |
| 3. | Mid – Term and Final Test | 25% |      |
| 4. | Projects/Assignments      | 40% |      |
|    | Total                     |     | 100% |

The transmutation of percent to letter grade are:

|           |   |
|-----------|---|
| 90 – 100% | A |
| 80 – 89%  | B |
| 70 – 79%  | C |
| 65 – 69%  | D |
| 0 – 64%   | F |

## TASK LIST: CONSTRUCTION PROJECT MANAGEMENT

| <u>AD 213 CONSTRUCTION PROJECT MANAGEMENT</u>   | Credits | <u>2</u><br>Lecture | <u>1</u><br>Lab | <u>48</u><br>Total Lab Hrs |
|---|---------|---------------------|-----------------|----------------------------|
| TASK  |         |                     |                 | TIME                       |
| Objective # 2<br>After interviewing several contractors, develop a building construction master plan  |         |                     |                 | 4                          |
| Objective # 3<br>Prepare construction organization chart  |         |                     |                 | 4                          |
| Objective # 4<br>Prepare a building proposal and contract.  |         |                     |                 | 4                          |
| Objective # 5<br>Based on the contract, identify the scope of work and document them according to the construction project phases.                        |         |                     |                 | 4                          |
| Objective # 6<br>Illustrate the step-by-step process of bidding commonly used in Palau.   |         |                     |                 | 4                          |
| Objective # 7<br>Prepare the table of contents for a Field Procedure Manual   |         |                     |                 | 4                          |
| Objective # 8<br>Using selected methods, estimate the building cost.  |         |                     |                 | 6                          |
| Objective # 9<br>Develop a building construction schedule.  |         |                     |                 | 6                          |
| Objective # 10<br>Write a cost control report   |         |                     |                 | 4                          |
| Objective # 11<br>After touring at least two construction sites in Koror, compare and contrast their job site administration and control with each other. |         |                     |                 | 4                          |
| Objective #12<br>Visit at least two construction sites to conduct a safety surveys and compare and contrast their effectiveness.                          |         |                     |                 | 4                          |
| <b>TOTAL LAB HOURS</b>  |         |                     |                 | <b>48</b>                  |

## NEW COURSE PROPOSAL: CONSTRUCTION PROJECT MANAGEMENT

### INTRODUCTION

#### 1. Rationale

Construction documentation communicates information and relates directions in construction projects. The effectiveness of these documents depends on the skill of the person relating the information to articulate it with drawings and other documents. This course focuses on the practical application in the conveyance of the information necessary for effective communication of that information to the industry. It introduces the student to management skills and procedures as they apply to the construction industry in Palau and Micronesia through various phases to the completion of a construction project. The student learns to identify, visualize, analyze and solve problems in a manner that can be efficiently communicated to other people within the construction industry.

#### 2. Relationship to other Courses and/or Programs

This course expands on skills learnt in AD120 and BA110 and relates them to management principles in the construction industry

#### 3. Course Description

This course concentrates on all the aspects that a successful project manager needs to understand; the people involved in the design and construction process, the principal phases of a project, and the tools required to effectively manage the people and the project..

#### 4. Target Group/Class Size

There are many careers in the construction industry that require detailed knowledge of construction. This course is created to cater for people interested in working in the management sphere in the industry.

It is anticipated that the proposed classroom can accommodate 12 students.

### BUDGET

#### 1. Budget/Financial Impact: Estimate for Tools and Equipment

Existing tools and equipment adequate

#### 2. Budget/Financial Impact: Estimate for Materials

None

3. Library Resources

None (Internet access for research is adequate)

4. Others

None

COURSE OUTLINE

See attached

SUPPORTING DOCUMENTS

See attached

## COURSE OUTLINE: HEALTHY HOUSE DESIGN

### HEALTHY HOUSE DESIGN

Course Title

AD 211

Dept. & Course No.

#### I. COURSE DESCRIPTION:

This course covers the considerations that must be addressed when designing a house, including social, environmental and ecological factors. The student is guided through the necessary steps from inception, analysis, conceptualization and design development to produce a house of their own design.

II. SEMESTER CREDITS: 3

III. CONTACT HOURS PER WEEK: 3  
Lecture

IV. PREREQUISITE: AD 120 & CT113

#### V. STUDENT LEARNING OUTCOMES:

Upon completion of this course, the student will be able to, with 65% accuracy to:

1. Describe the design process
2. Identify and describe social factors involved in the design process
3. Identify and describe environmental factors involved in the design process

#### VI. COURSE CONTENT:

- A. Design process
  1. Initial contact
  2. Inventory and goal setting
  3. Analysis
  4. Conceptualization
  5. Evaluation
  6. Design development
- B. Social factors
  1. Zoning
  2. Building code
    - Health – Light
    - Ventilation
    - Sanitation
    - Safety
    - Fire safety
    - Egress
- C. Environmental factors
  1. Site
    - Slope
    - Soil
    - Water catchment
    - Drainage
  2. Energy orientation
    - Solar planning
    - Climate control

- |  |   |
|--|---|
| <p>4. Identify and describe ecological factors involved in the design process</p> <p>5. Construct a user analysis for a house</p> <p>6. Conduct a site analysis</p> <p>7. Identify and explain elements of design</p> <p>8. Identify and explain principles of designs</p> <p>9. Construct and analyze the conceptual design for a house</p> | <p>D. Ecological factors</p> <ol style="list-style-type: none"> <li>1. Energy conservation</li> <li>2. Sustainability</li> <li>3. Land pollution</li> <li>4. Air pollution</li> <li>5. Water pollution</li> <li>6. Visual pollution</li> <li>7. Sound pollution</li> </ol> <p>E. User analysis</p> <ol style="list-style-type: none"> <li>1. Space elements</li> <li>2. Space functions</li> <li>3. Primary users</li> <li>4. Space requirements</li> <li>5. Space relationships</li> <li>6. Ergonomics</li> <li>7. Accessibility</li> </ol> <p>F. Site analysis</p> <ol style="list-style-type: none"> <li>1. Visual analysis</li> <li>2. Slope analysis</li> <li>3. Soil analysis</li> <li>4. Composite analysis</li> </ol> <p>G. Elements of design</p> <ol style="list-style-type: none"> <li>1. Line</li> <li>2. Form</li> <li>3. Color</li> <li>4. Light</li> <li>5. Space</li> <li>6. Materials</li> </ol> <p>H. Principles of design</p> <ol style="list-style-type: none"> <li>1. Balance</li> <li>2. Rhythm</li> <li>3. Emphasis</li> <li>4. Proportion</li> <li>5. Unity</li> <li>6. Variety</li> <li>7. Repetition</li> <li>8. Oppositions</li> <li>9. Transition</li> </ol> <p>I. Analyze the conceptual design</p> <ol style="list-style-type: none"> <li>1. Idealized (bubble) diagram</li> <li>2. Site related diagram</li> <li>3. Conceptual design</li> </ol> |
|--|---|

## VII. EQUIPMENT AND MATERIALS

Routine classroom materials

## VIII. TEXT AND REFERENCE

Required Text:

Instructor's made handouts.

Supplementary References:

Kicklighter, Clois *Architecture: Residential Drafting and Design*

## IX. METHODS OF INSTRUCTION

1. Lecture
2. Demonstration/Explanation
3. Discussion
4. Student projects/Reinforcement activities

## X. METHOD OF EVALUATION

Lecture presentation is tested by written tests. Lab evaluation is based on skill development and knowledge acquisition.

Four criteria used in evaluating projects and operation performance are:

1. Accuracy
2. Techniques
3. Appearance
4. Completion

The components used in the computation of the final grades are:

|                              |     |
|------------------------------|-----|
| Classwork/participation..... | 20% |
| Homework/assignments.....    | 20% |
| Quizzes.....                 | 20% |
| Mid term and final test..... | 20% |
| Final project.....           | 20% |

The transmutation of percentages to letter grades are:

|                |   |
|----------------|---|
| 90 – 100%..... | A |
| 80 – 89%.....  | B |
| 70 – 79%.....  | C |
| 65 – 69%.....  | D |
| 0 – 64%.....   | F |



## NEW COURSE PROPOSAL: HEALTHY HOUSE DESIGN

### INTRODUCTION

#### 1. Rationale

The procedure for designing a healthy house is not a difficult process when all the appropriate factors are considered. This course introduces students to those factors and guides them step by step through the design process. The anticipated eventual outcome of this course is the improvement of the design of houses built in Micronesia.

#### 2. Relationship to other Courses and/or Programs

This course expands on skills learnt in AD120 and complements AD212 (House Working Drawings)

#### 3. Course Description

This course covers the considerations that must be addressed when designing a house, including social, environmental and ecological factors. The student is guided through the necessary steps from inception, analysis, conceptualization and design development to produce a house of their own design.

#### 4. Target Group/Class Size

This course is to inform those people interested in building houses for themselves and their family of the factors that need to be considered when designing a house. This is a program course for the Architectural Drafting Program, but it may also be appropriate as an adjunct for the Construction Technology Program.

It is anticipated that the proposed classroom can accommodate 12 students.

### BUDGET

#### 1. Budget/Financial Impact: Estimate for Tools and Equipment

Existing tools and equipment adequate

#### 2. Budget/Financial Impact: Estimate for Materials

None

#### 3. Library Resources

Requests for this book were made in May 2006, August 2007, and December 2007  
Hyde, Richard. *Climate Responsive Design*  
however, it has not yet been received.

| Books                     | Number off | Price | Total Cost |
|---------------------------|------------|-------|------------|
| Climate Responsive Design | 1          | 56.00 | 56.00      |

#### 4. Others

None

## COURSE OUTLINE

See attached

## SUPPORTING DOCUMENTS

See attached

## COURSE OUTLINE: HOUSE WORKING DRAWINGS

### HOUSE WORKING DRAWINGS

Course Title

AD 212

Dept. & Course No.

#### I. COURSE DESCRIPTION:

This course covers the considerations that must be addressed when producing working drawings for a house, with an emphasis on structural integrity and construction detailing including weather tightness. The student will complete a set of working drawings for a house of their own design.

#### II. SEMSTER CREDITS:

3

#### III. CONTACT HOURS PER WEEK:

|          |          |          |
|----------|----------|----------|
| <u>1</u> | <u>6</u> | <u>7</u> |
| Lecture  | Lab      | Total    |

#### IV. PREREQUISITE:

AD 120 & CT113

#### V. STUDENT LEARNING OUTCOMES:

Upon completion of this course, the student will be able to, with 65% accuracy to:

1. Identify factors affecting working drawings
2. Identify structural forces affecting the design of buildings
3. Draw a site plan/plot plan

#### VI. COURSE CONTENT:

- A. Factors affecting working drawings
  1. Client
  2. Complexity
  3. Contractor
  4. Financier
  5. Regulatory Authority
- B. Structural forces affecting design
  1. Live loads
    - Earthquake
    - Wind
  2. Dead loads
  3. Site
  4. Spans and spacings
- C. Site plan/plot plan
  1. Legal boundaries/property lines
  2. Contours/grades
  3. Utilities
  4. Landscaping

- |  |  |
|--|--|
| 4. Draw a floor plan   | D. Floor plan <ol style="list-style-type: none"> <li>1. Structural/load bearing walls</li> <li>2. Fixtures/fittings</li> <li>3. Kitchen work triangle</li> <li>4. Finishes</li> </ol>  |
| 5. Draw a foundation/floor framing plan and associated details | E. Foundation/floor framing plan <ol style="list-style-type: none"> <li>1. Site slope</li> <li>2. Soil bearing capacity</li> <li>3. Slab foundations</li> <li>4. Pier/pile foundations</li> <li>5. Materials               <ul style="list-style-type: none"> <li>concrete</li> <li>lumber</li> </ul> </li> <li>6. Stairs</li> </ol>   |
| 6. Draw cross sections and associated details                  | F. Cross sections <ol style="list-style-type: none"> <li>1. Wall and roof construction</li> <li>2. Structural integrity</li> <li>3. Connection details</li> <li>4. Weathertight details</li> </ol>   |
| 7. Draw a roof framing plan and associated details             | G. Roof framing plan <ol style="list-style-type: none"> <li>1. Roof types               <ul style="list-style-type: none"> <li>hip</li> <li>gable</li> <li>shed/monopitch</li> </ul> </li> <li>2. Roof structure               <ul style="list-style-type: none"> <li>trusses and truss design</li> <li>rafters</li> </ul> </li> <li>3. Calculating roof member sizes</li> </ol> |
| 8. Draw elevations   | H. Elevations <ol style="list-style-type: none"> <li>1. Roof style/form/shape</li> <li>2. Windows and doors/balance/lines</li> </ol>   |
| 9. Draw electrical plan with associated legend                 | I. Electrical plan <ol style="list-style-type: none"> <li>1. Lighting</li> <li>2. Outlets</li> <li>3. Small appliance circuits</li> <li>4. Large appliance circuits</li> <li>5. GFCI</li> </ol>  |
| 10. Draw plumbing plan with associated legend                  | J. Plumbing plan <ol style="list-style-type: none"> <li>1. Water supply systems</li> <li>2. Waste discharge systems</li> </ol>   |
| 11. Draw interior elevations and associated details            | K. Interior elevations <ol style="list-style-type: none"> <li>1. Finishes</li> <li>2. Detailing</li> </ol>   |

12. Draw window and door schedule and associated details

13. Draw finishes schedule

L. Window and door schedule

1. Window types
2. Glazing

M. Finishes schedule

1. Materials
2. Finishes

## VII. EQUIPMENT AND MATERIALS

### Classroom tools and Equipment

1. Drawing boards
2. Tracing paper – roll (36" x 20yds)
3. Routine class room materials

### Student's Tools and Equipment (purchased by student)

1. Architect's scale rule
2. Drawing board
3. Tee square
4. 30° set square
5. 45° set square
6. Adjustable set square
7. Compass drawing set
8. Circle template
9. 6" Protractor
10. Brush
11. Lead pointer
12. Lead holder
13. Leads HB, F, & H
14. Eraser shield
15. Eraser
16. Drafting tape (½" masking tape)

## VIII. TEXT AND REFERENCE

### Required Text:

Instructor's made handouts.

Kicklighter, Clois *Architecture: Residential Drafting and Design*

### Supplementary References:

International Conference of Building Officials *Uniform Building Code 1997*

## IX. METHODS OF INSTRUCTION

1. Lecture
2. Demonstration/Explanation
3. Discussion
4. Student projects/Reinforcement activities

## X. METHOD OF EVALUATION

Lecture presentation is tested by written tests. Lab evaluation is based on skill development and knowledge acquisition.

Four criteria used in evaluating projects and operation performance are:

1. Accuracy/precision
2. Techniques
3. Appearance
4. Completion

The components used in the computation of the final grades are:

1. Classwork/participation.....10%
2. Homework/assignments..... 20%
3. Quizzes..... 10%
4. Mid term and final test..... 30%
5. Final project.....30%

The transmutation of percentages to letter grades are:

|                |   |
|----------------|---|
| 90 – 100%..... | A |
| 80 – 89%.....  | B |
| 70 – 79%.....  | C |
| 65 – 69%.....  | D |
| 0 – 64%.....   | F |

# TASK LIST: HOUSE WORKING DRAWINGS

| <u>AD2121 HOUSE WORKING DRAWINGS</u>                                      | Credits | <u>1</u><br>Lecture | <u>2</u><br>Lab | <u>96</u><br>Total Lab Hrs |
|---|---------|---------------------|-----------------|----------------------------|
| TASK  |         |                     |                 | TIME                       |
| Objective #1  |         |                     |                 | 12                         |
| 1. Draw Site plan   |         |                     |                 |                            |
| Objective #2  |         |                     |                 | 12                         |
| 1. Draw floor plan  |         |                     |                 |                            |
| Objective #3  |         |                     |                 | 6                          |
| 1. Draw foundation and floor framing plan                                 |         |                     |                 |                            |
| 2. Draw associated details  |         |                     |                 |                            |
| Objective #4  |         |                     |                 | 12                         |
| 1. Draw cross section and longitudinal section                            |         |                     |                 |                            |
| 2. Draw associated details  |         |                     |                 |                            |
| Objective #5  |         |                     |                 | 8                          |
| 1. Draw roof framing plan   |         |                     |                 |                            |
| 2. Draw associated details  |         |                     |                 |                            |
| Objective #6  |         |                     |                 | 8                          |
| 1. Draw exterior elevations   |         |                     |                 |                            |
| Objective #7  |         |                     |                 | 6                          |
| 1. Draw electrical plan   |         |                     |                 |                            |
| Objective #8  |         |                     |                 | 6                          |
| 1. Draw plumbing plan   |         |                     |                 |                            |
| Objective #9  |         |                     |                 | 10                         |
| 1. Draw interior elevations (kitchen and bathroom) and associated details |         |                     |                 |                            |
| 2. Draw special cabinetry and associated details                          |         |                     |                 |                            |

|                                  |    |
|----------------------------------|----|
| Objective #10                    | 8  |
| 1. Draw window and door schedule |    |
| Objective #11                    | 8  |
| 1. Draw finishes schedule        |    |
| Total Hours                      | 96 |



## NEW COURSE PROPOSAL: HOUSE WORKING DRAWINGS

### INTRODUCTION

#### 1. Rationale

Construction drawings are documents used to communicate information and relate directions in construction projects. The effectiveness of these documents does not depend on the equipment by which they were produced, but rather the skill of the person relating the information to articulate it with drawings. This course focuses on the practical application in the conveyance of the information necessary for effective communication of information to the industry. It introduces the student to design and problem solving prior to commencement of any actual construction on site. The student learns to identify, visualize, analyze and solve design and detail problems in a manner that can be efficiently communicated to other people within the construction industry.

#### 2. Relationship to other Courses and/or Programs

This course expands on skills learnt in AD120 and complements AD211 (Healthy House Design)

#### 3. Course Description

This course covers the considerations that must be addressed when producing working drawings for a house, with an emphasis on structural integrity and construction detailing including weather tightness. The student will complete a set of working drawings for a house of their own design.

#### 4. Target Group/Class Size

There are many careers in the construction industry that require detailed knowledge of construction. This course is created to cater for people interested in working in the technical sphere in the industry.

It is anticipated that the proposed classroom can accommodate 12 students.

### BUDGET

#### 1. Budget/Financial Impact: Estimate for Tools and Equipment

Existing tools and equipment adequate

#### 2. Budget/Financial Impact: Estimate for Materials

| Materials                           | Number off | Price | Total Cost |
|-------------------------------------|------------|-------|------------|
| Tracing paper – roll (36" x 20 yds) | 1          | 69.95 | 69.95      |

#### 3. Library Resources

None

#### 4. Others

None

## COURSE OUTLINE

See attached

## SUPPORTING DOCUMENTS

See attached

## COURSE OUTLINE: HISTORY OF ARCHITECTURE

### HISTORY OF ARCHITECTURE

Course Title

AD 121

Dept. & Course No.

#### I. COURSE DESCRIPTION:

This course is to introduce the student to the global history of Architecture, both vernacular and monumental, including discussion about Bai Belau.

#### II. SEMSTER CREDITS:

3

#### III. CONTACT HOURS PER WEEK:

3

Lecture

#### IV. PREREQUISITE:

None

#### V. STUDENT LEARNING OUTCOMES:

Upon completion of this course, the student will be able to, with 65% accuracy to:

1. Explain the term Prehistory; identify and describe examples of prehistoric architecture.
2. Explain the term Cave Dwelling; identify and describe examples of cave dwelling architecture.
3. Explain the term Stone age; identify and describe examples of stoneage architecture.
4. Explain the term Nomads; identify and describe examples of nomadic architecture.
5. Explain the term Iron age; identify and describe examples of architecture from the iron age.
6. Explain the term Industrial age; identify and describe examples of architecture from the time of the industrial revolution.

#### VI. COURSE CONTENT:

- A. Examples of prehistoric architecture:
  1. Skara Brae, Scotland
  2. Stonehenge, Britain
  3. Nan Madol, Pohnpei
- B. Examples of cave dwelling architecture:
  1. Agri Dagi, Turkey
  2. Mesa Verde, Colorado
  3. Petra, Jordan
- C. Examples of stoneage architecture
  1. Papua New Guinea
  2. Machu Picchu
- D. Examples of nomadic architecture
  1. Native American tepees
  2. Arabian Al Beit Issha'ar
  3. Gypsy Caravans
- E. Examples of architecture from the iron age
  1. Angor Wat Temple, Cambodia
  2. Hagia Sophia, Turkey
- F. Examples of architecture time of the industrial revolution
  1. Crystal Palace
  2. Railway station

7. Identify and describe examples of Oceanic Architecture
  8. Explain the term Colonialization; identify and describe examples of architecture from the time of colonization
  9. Describe and comment on remarkable recent off island buildings.
- G. Examples of Oceanic architecture
    1. Maori marae, meeting house and pa
    2. Bai Belau
  - H. Examples of architecture from The time of colonization
    1. British colonization of New Zealand
  - I. Examples of architecture of recent off-island buildings
    1. TBA from current architecture journals in the PCC Library

## VII. EQUIPMENT AND MATERIALS

Routine classroom materials

## VIII. TEXT AND REFERENCE

Required Text:

Instructor's made handouts.

Supplementary References:

Fletcher, Sir Banister *The History of Architecture*

## IX. METHODS OF INSTRUCTION .

1. Lecture
2. Discussion
3. Student projects and presentations.

## X. METHOD OF EVALUATION

Lecture presentation is tested by written tests.

Four criteria used in evaluating projects and operation performance are:

1. Accuracy/precision
2. Techniques
3. Appearance
4. Completion

The components used in the computation of the final grades are:

1. Classwork/participation.....10%
2. Homework/assignments..... 20%
3. Quizzes..... 10%
4. Mid term and final test.....30%
5. Final project.....30%

The transmutation of percentages to letter grades are:

|                |   |
|----------------|---|
| 90 – 100%..... | A |
| 80 – 89%.....  | B |
| 70 – 79%.....  | C |
| 65 – 69%.....  | D |
| 0 – 64%.....   | F |

## NEW COURSE PROPOSAL: HISTORY OF ARCHITECTURE

### INTRODUCTION

#### 1. Rationale

Awareness of why buildings are the way they are; their history, both geographical and cultural, the resources available (or limitations thereof) for their construction – materials, labor, technology, assist in the understanding of the significance of particular buildings.

This course has been developed to give students exposure to different geographic and cultural buildings to broaden their perspective of architecture and the construction industry. It is envisaged that this course will awaken their interest in current overseas architecture.

It is anticipated that a greater understanding of architecture will assist in the development of fresh ideas for the building industry in Micronesia.

#### 2. Relationship to other Courses and/or Programs

This is an introductory course to promote an awareness of buildings from other cultures. It is envisaged that this new awareness will influence design concepts in AD211 (Healthy House Design), AD212 (House Working Drawings), and AD220 (Architectural Presentation)

#### 3. Course Description

This course is to introduce the student to the global history of Architecture, both vernacular and monumental, including discussion about Bai Belau.

#### 4. Target Group/Class Size

There are many careers in the construction industry that require detailed knowledge of construction. This course is created to cater for people interested in working in design and technology.

It is anticipated that the proposed classroom can accommodate 12 students.

### BUDGET

#### 1. Budget/Financial Impact: Estimate for Tools and Equipment

Existing tools and equipment adequate

#### 2. Budget/Financial Impact: Estimate for Materials

None

### 3. Library Resources

Requests for this book were made in May 2006, August 2007, and December 2007  
Fletcher, Sir Banister *The History of Architecture*  
however, it has not yet been received.

| Books                       | Number off | Price  | Total Cost |
|-----------------------------|------------|--------|------------|
| The History of Architecture | 1          | 148.00 | 148.00     |

### 4. Others

None

### COURSE OUTLINE

See attached

### SUPPORTING DOCUMENTS

See attached

## Appendix E

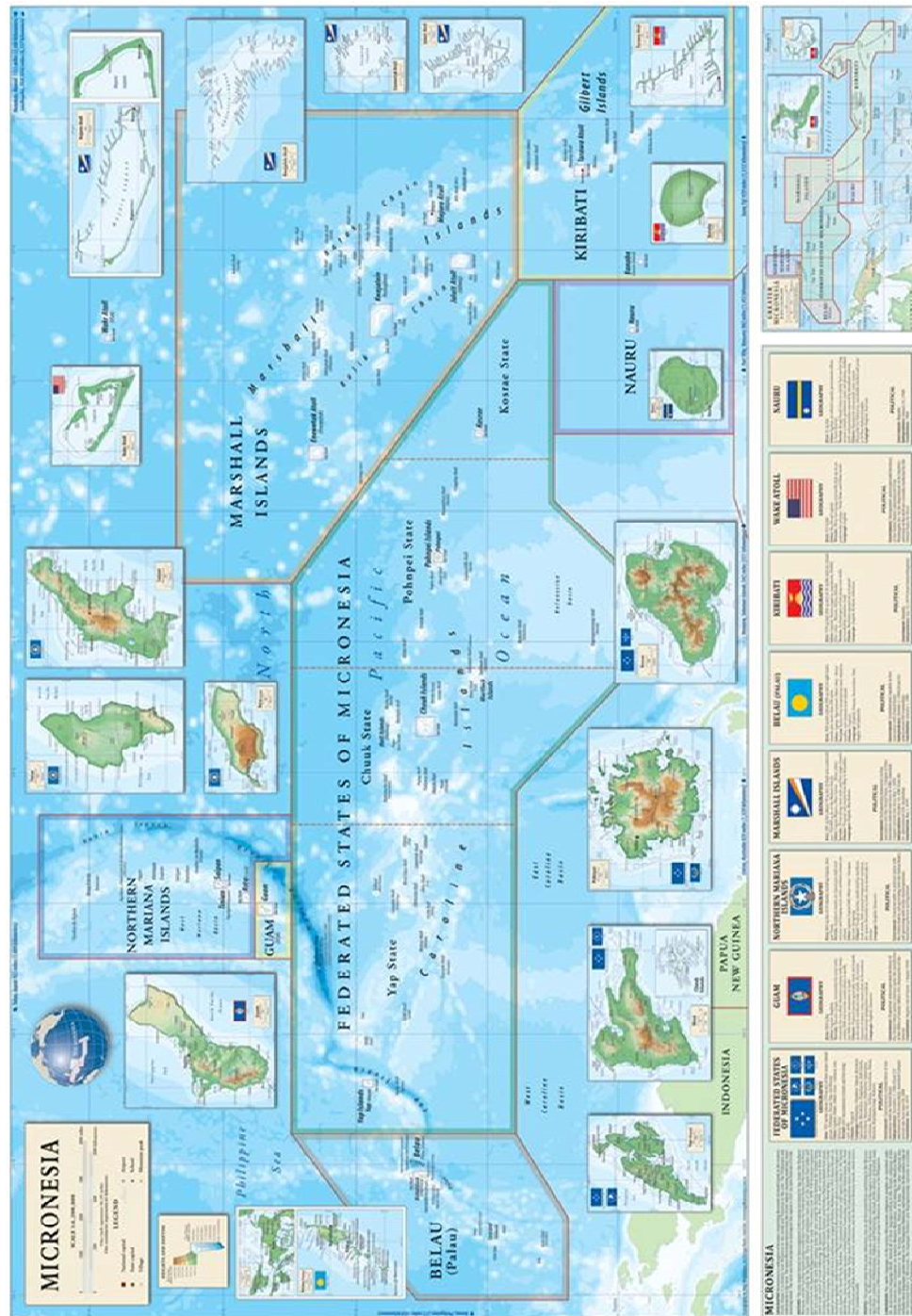


Figure 104: Map of Micronesia  
 From Facebook Micro Forum Public Group  
<https://www.facebook.com/photo.php?fbid=817929665007641&set=g.673513206000365&type=1&theater>



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